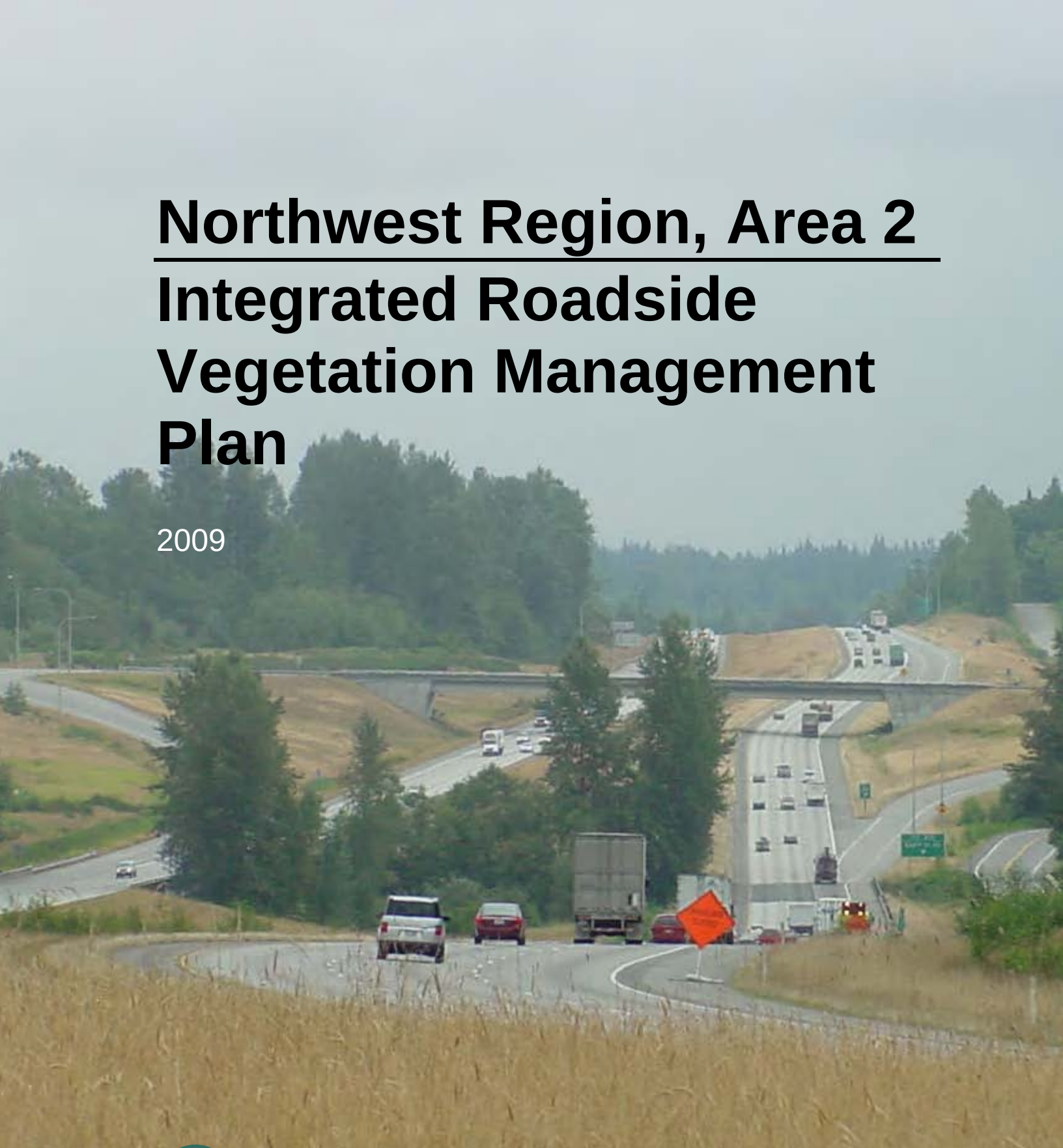
Northwest Region, Area 2

Integrated Roadside Vegetation Management Plan

2009



Washington State Department of Transportation
Maintenance and Operations Division

Table of Contents

Summary

This plan explains the Washington State Department of Transportation's (WSDOT) policy and practice for maintenance of roadside vegetation for Maintenance Area 2 within the agency's Northwest Region. This area manages vegetation within approximately 311 miles of state highway corridor primarily in Island, Skagit and Snohomish Counties, although a section of SR 20 briefly extends into Whatcom County at the east end. The area maintains the Interstate 5 corridor between the junctions with SR 530 and SR 20, the entire SR 530 corridor, SR 9 between Marysville and the Whatcom County line, SR 20 across Whidbey Island and up through the North Cascades National Recreation Area, along with several other smaller connecting routes in the four counties. A map of the entire area is included as **Figure 1** on the following page.

The primary objectives in maintenance of roadside vegetation within the area are in relation to safety of the highway users, preservation of the highway infrastructure, and control of legally designated noxious weeds where they occur on the right of way. Other considerations include protection and preservation of natural environment, preserving and enhancing the natural scenic quality of the roadside, and being a good neighbor to the many adjoining property owners. In all cases, roadside vegetation maintenance activities are planned and conducted in a way that discourages or eliminates unwanted vegetation and promotes desirable vegetation. This is the basic premise of Integrated Vegetation Management (IVM) and the foundation of the program.

This document and associated information management tools serve as the primary reference for maintenance of roadside vegetation in the area. Included is detailed information on policies and locations for planned routine maintenance practices, reoccurring weed infestations, sensitive areas, and other areas with special management considerations. Also included are guidelines and prescriptions for best management practices in dealing with roadside vegetation problems and opportunities. In effect, this plan supports WSDOT's compliance with state law (RCW 17.15) by implementing the principles of Integrated Pest Management for the management of roadside vegetation. It also supports WSDOT's long-range goals for the management of roadsides to:

- Create naturally stable, sustainable plant communities
- Improve effectiveness and efficiency in the control of weeds and unwanted trees and brush
- Reduce maintenance cost and herbicide use over time

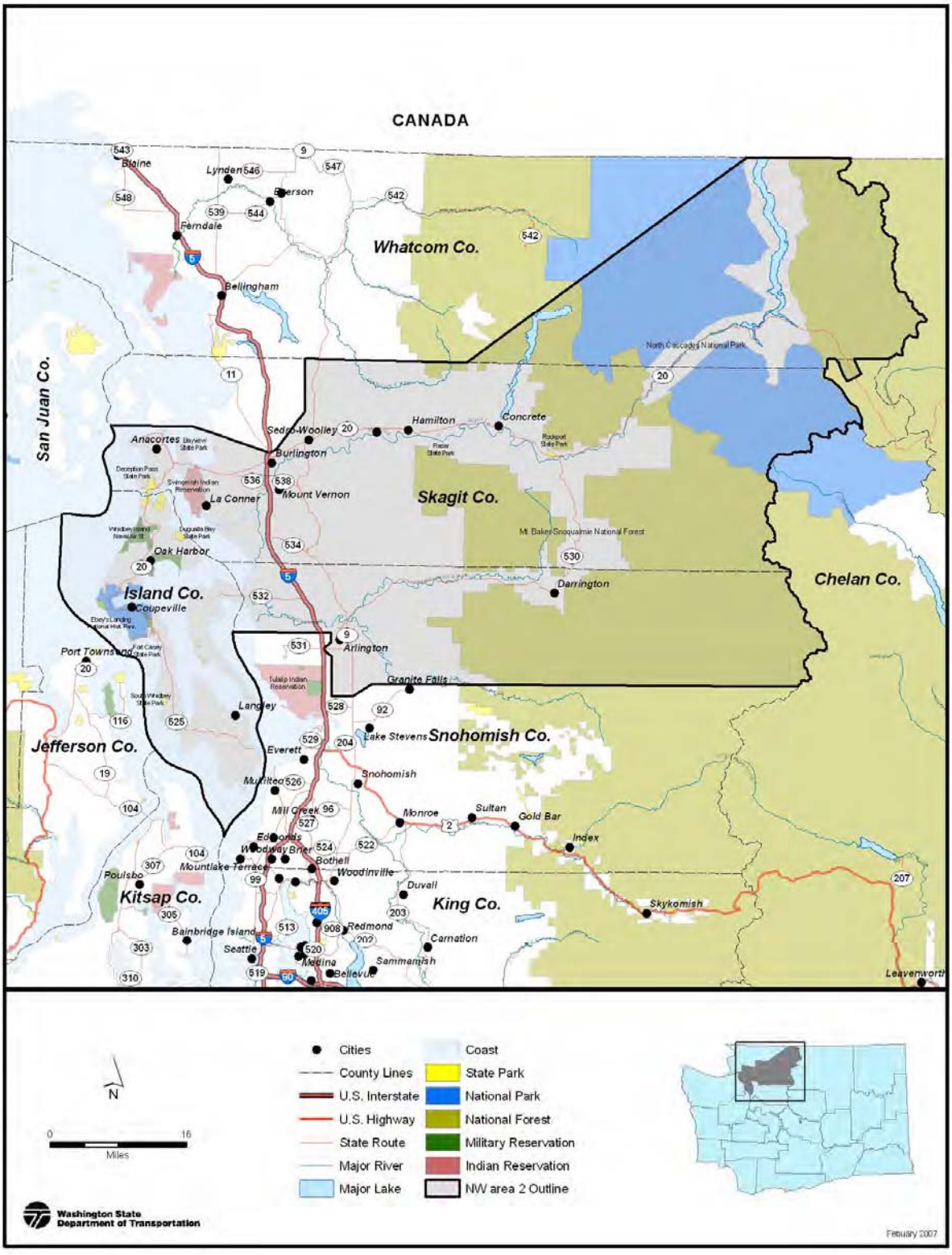
This plan is organized around the major categories of roadside vegetation maintenance work. The major categories include: Zone 1 (or pavement edge maintenance), Routine Mowing, Noxious Weed Control, Nuisance Weed Control, Tree and Brush Control (Control of Vegetative Obstructions), and Special Maintenance Areas.

The management of roadside vegetation is a dynamic process and it is intended that this plan be continuously adapted over time based on input from a variety of sources. An integral component of the process is a database for recording IVM treatments for specific vegetation controls and locations, and to record information on follow up evaluation on these treatments. Annual area meetings will be held to discuss what is learned each year and to refine the plan over time.

WSDOT is also requesting that local public and private entities with an interest in weed control and roadside vegetation management provide input on the plan and cooperate in efforts where appropriate. The plan is available online: www.wsdot.wa.gov/maintenance/vegetation/mgmt_plans.htm, hard copies can also be provided upon request. Please contact Ted Dempsey or Ray Willard for questions or comments:

Ted Dempsey
Superintendent, NW Region Area 2
DempseT@wsdot.wa.gov
(360) 848-7235
4100 Cedardale Rd.
Mt. Vernon, WA 98274-9599

Ray Willard
Roadside Maintenance Program Manager
WillarR@wsdot.wa.gov
(360) 705-7865
PO Box 47358
Olympia, WA 98504-7358



Northwest Region, Area 2 Map
Figure 1

Roadside Management Considerations

The primary objectives for maintenance of roadside vegetation are to provide for safe highway operation and to comply with legal regulations for control of noxious weeds and protection of the environment. Overall WSDOT maintenance policy and procedures for roadside vegetation are defined in Chapter 6 of the WSDOT Maintenance Manual (M51-01, March 2002) www.wsdot.wa.gov/fasc/EngineeringPublications/Manuals/MaintenanceManual.pdf

Visual Quality
It is also important to maintain appropriate visual standards in the appearance of the roadside. All maintenance activities should be conducted in a way that minimizes visual impacts such as wide spread "brown-out" from herbicides or shattered limbs from side trimming. Roadsides should look as natural as possible throughout the year. Appropriate visual quality for roadsides throughout the state is defined in the WSDOT Roadside Classification Plan (June 1996) www.wsdot.wa.gov/fasc/EngineeringPublications/Manuals/RCP.pdf

Operational Zones
WSDOT roadsides are divided into several zones for the purposes of assigning management objectives, maintenance needs, and thresholds for triggering vegetation maintenance actions. Noxious weed species designated for control by state and county law are controlled throughout all zones. Not all management zones occur along all state highways. In some cases the narrow width of the right-of-way or adjoining land-use, limits the operational zones to Zone 1 and/or a narrow Zone 2 only. Roadside vegetation management zones are illustrated in **Figure 2** below and defined as follows:

> **Zone 1** – A vegetation free gravel shoulder, where needed, is maintained as a one to three-foot wide strip to provide for key maintenance, operational, safety, and pavement and guardrail preservation needs. Zone 1 is typically maintained with an annual application of herbicides. If a Zone 1 is not maintained, then Zone 2 begins at the edge of pavement.
>
> **Zone 2** – The operational zone extends from the edge of Zone 1 or the pavement edge (if Zone 1 is not present) to a width necessary to provide for safe errant vehicular recovery, maintain sight distance at corners and intersections, and provide for other operational, safety, and environmental functions. Zone 2 is typically maintained by mowing a single pass adjacent to the pavement and through selective removal of potentially hazardous or obstructing trees and brush beyond the mowing strip to the extent of the design clear-zone.
>
> **Zone 3** – In areas with sufficient right-of-way width, a buffer or transition zone extends from Zone 2 to the right-of-way line to provide a buffer or transitional area between the highway facility and adjacent land uses. This area is maintained selectively, and to the greatest degree possible as a self-sustaining plant community, to minimize erosion as well as the growth of weeds and undesirable trees and brush.

Roadside Maintenance Activities
All roadside maintenance activities are to be planned and conducted in a way that discourages or eliminates unwanted vegetation and promotes desirable vegetation. This is the basic premise of Integrated Vegetation Management (IVM). In every case it is essential that the results of maintenance activities are evaluated and adjusted as necessary to maximize efficiency and effectiveness. However, in some cases maintenance activities are conducted more consistently on an annual basis, such as maintenance of Zone 1 where required, and routine mowing where specified.

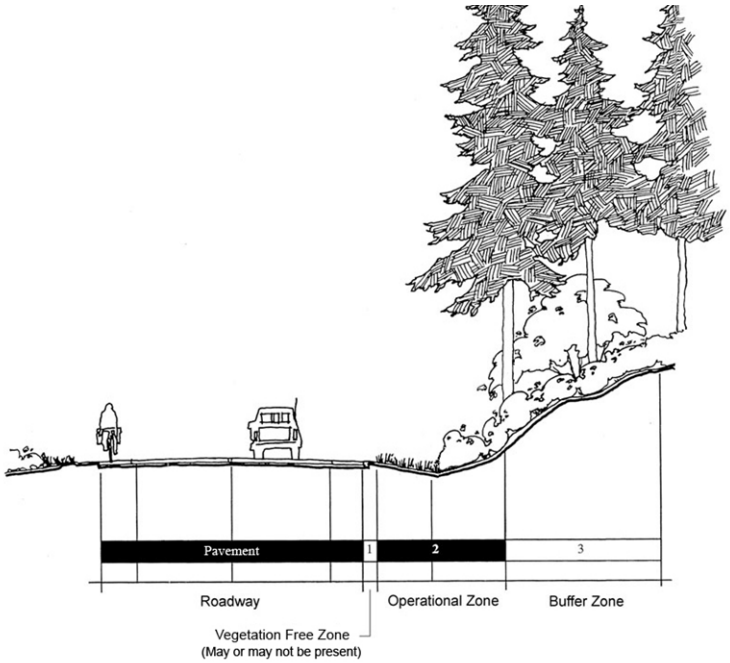
> **Routine Maintenance Activities** – When vegetation maintenance activities are required to keep the area of roadside being managed in an annually controlled condition, they are considered routine. This is more critical for areas of vegetated roadside near the travel lanes, edge of pavement, and around guardrails. This plan provides prescriptions and

gives locations for routine maintenance activities including maintenance of Zone 1 and annual mowing.

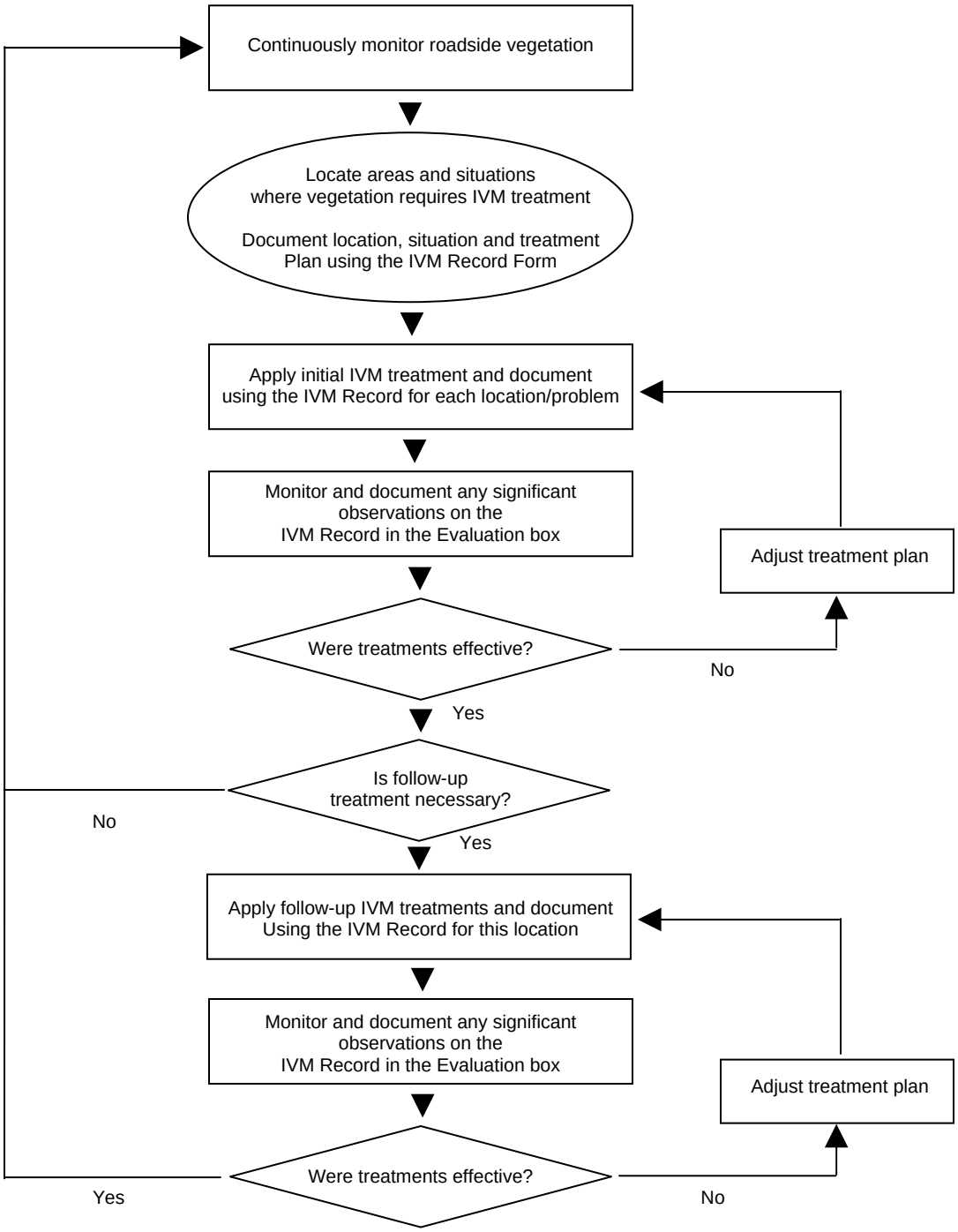
Integrated Vegetation Management Activities – Although all activities are to be planned and conducted in accordance with the principles of IVM, many vegetation maintenance activities are intended to target a specific type or types of unwanted plants. By carefully planning and carrying out these target specific activities it is possible over time to establish desirable vegetation, which will prevent the re-infestation of unwanted plants and reduce the need for maintenance over time. The process for determining and carrying out IVM actions is illustrated in **Figure 3** on the following page. This plan provides information, locations, and gives prescriptions for selective control of weeds and other unwanted vegetation and the promotion and establishment of desirable vegetation. Further information and guidance on the application of IVM is available in the document Integrated Vegetation Management for Roadsides (WSDOT, July 1997) www.wsdot.wa.gov/maintenance/pdf/IVM.pdf

Special Maintenance Areas – In some locations there are unique situations that require special consideration in determining appropriate vegetation maintenance actions. Examples of these are: environmentally sensitive areas, areas with special neighbor concerns, areas where a higher level of maintenance is expected such as gateway interchanges or formally landscaped areas, or along highways that cross tribal or federal lands. This plan provides information and guidance on the locations and unique requirements or restrictions on maintenance activities in all of these situations throughout the area.

Herbicide Use – WSDOT has conducted independent research on herbicide risk from toxicity and environmental fate, based specifically on agency application methods and use rates. Findings from this research have been used to establish an approved palette of herbicides and application limits for state highways. A complete summary of herbicides approved for use on WSDOT rights of way is included in **Appendix B**.



Typical Roadside Vegetation Management Zones
Figure 2



The IVM Decision-Making Process
Figure 3

Area IVM Goals

The purpose of this section is to identify the highest priority roadside vegetation management needs in NW Region, Area 2. Priorities are listed by specific activities and locations in relation to the three major groups for roadside vegetation maintenance performance: Control of Vegetative Obstructions, Noxious Weed Control, and Nuisance Weed Control. This section is intended to supplement the information in the following section, ***Northwest Region, Area 2 – Roadside Vegetation Management Plan*** which details the guidelines and methods for accomplishing the work of roadside vegetation management.

Control of Vegetative Obstructions
Since the work of this group of maintenance activities relates to the safety and operation of the highway, these items are considered first priority in terms of the overall roadside maintenance priority. Activities and locations of greatest need include:

-

Noxious Weed Control
Noxious weeds are those species legally designated by state and county regulations for required control by all property owners. Because laws are enforced with fines and/or control work and billing of property owners by county administration, work under this group is considered second priority after critical safety related locations have been addressed. Species and locations are negotiated with the county weed boards on an annual basis and for 2009 include:

-

Nuisance Vegetation Control
Nuisance vegetation control includes control/management of weed species that are recommended but not mandated, by state and county law. It also includes work such as mowing of grass and weeds in areas where a more neatly maintained appearance is desired such as in gateway interchanges or highways in urbanized areas. Because nuisance vegetation control is lower priority after safety related and legally mandated activities, the location and work actions listed below may be postponed depending on availability of resources.

-

1. ROUTINE MAINTENANCE ACTIVITIES

Roadside maintenance activities are considered routine when regular periodic treatment is required to keep vegetative growth from interfering with highway operational and maintenance objectives. Typical routine maintenance activities are maintenance of Zone 1 and certain types of mowing and trimming.

1.1. Routine Shoulder Maintenance (Zone 1)

WSDOT is currently re-evaluating its policy for maintenance of Zone 1. Past policy and practice will be refined over the coming years in response to findings from study of long-term benefit/cost resulting from alternative treatments. For the 2009 growing season, vegetation at the edge of pavement will be managed as follows on roadsides in NW Region, Area 2:

1.1.1. Guidelines

- Zone 1 is maintained with the annual application of herbicides under all guardrail installations except on SR 20 in the National Recreation Area, and on select test areas on Whidbey Island.
- Zone 1 is also maintained with the annual application of herbicides in select locations and on highway corridors as specified in **Appendix C**, where highway configuration/traffic safety, or other factors preclude the ability to establish a grass stand and/or mow along the edge of pavement.
- Where maintained, Zone 1 is 3' band width or less.

1.1.2 Methods

- NW Region, Area 2 maintains Zone 1 through an annual application of the herbicide glyphosate during the months of May and June depending on seasonal weather patterns and precipitation.
- Pavement edges will be monitored for surface drainage problems resulting from sod build-up in areas where Zone 1 is not maintained and will be graded in select locations as necessary to allow for flow of storm water off the roadway surface.
- See **Appendix A, Routine Maintenance Prescriptions, Zone 1 Maintenance**

1.1.3 Locations

- Locations for Zone 1 maintenance are shown in **Appendix C, Zone 1 Map**

1.2. Routine Mowing/Trimming (Zone 2)

1.2.1. Guidelines

- Routine annual mowing occurs on all corridors where Zone 1 is not maintained with at least one pass, once per year immediately adjacent to the edge of pavement.
- Additional annual mowing or trimming may also conducted as needed for select locations on secondary highways to preserve site distance at curves, intersections and any other highway entry points for all highways including areas where Zone 1 is maintained.
- In designated areas on Interstates 5 and SR 20 between I-5 and Anacortes, mowing widths may extend beyond one mower pass where specified.

- In focus areas such as interchanges, urban landscaped areas, and areas adjacent to safety rest areas, mowing patterns and frequencies are adjusted to local situations as described in **Section 3**.
- In all other areas mowing is only used as needed to conduct IVM treatments for weed and brush control as described below in **Section 2**.
- Other areas that may be routinely mowed include grass areas in park and ride lots, narrow grass strips along highway infrastructures, and fence-lines adjacent to neighboring properties as deemed necessary by the Area Superintendent.

1.2.2. Methods

- On I-5, SR 20 routine annual mowing areas are designated as either single pass or multiple pass.
- Single pass mowing consists of one pass up to the maximum width of mowing equipment (25' max.) but may be as narrow as 6' depending on mowing equipment and the presence of existing visual lines such as ditches.
- In areas designated as multiple pass mowing roadsides are mowed out from edge of pavement to the right of way line, the edge of shrub or tree lines, or across the entire median widths.
- Multiple pass in medians on divided highways indicate the median is mowed out across the entire width regardless of the number of passes required.
- See **Appendix A, Routine Maintenance Prescriptions, Zone 2 Maintenance**

1.2.3. Locations

- **Appendix D, Routine Mowing Map** shows locations where routine annual mowing occurs as one pass and as multiple passes. **Appendix D, NW Region, Area 2 Limited Access Mowing Plan** describes mowing priorities, timing and limits on the I-5, SR 20 corridors.

1.3. Hazard Tree Removal

1.3.1. Guidelines

- Hazard tree removal is considered a routine maintenance activity because maintenance is constantly on the look out for any trees that pose an imminent threat to the highway or traffic, and whenever hazard trees are identified they are routinely removed as soon as possible.
- Hazard trees may be dead, leaning, or structurally unsound. Best horticultural judgment will be used in evaluating trees that appear diseased or structurally unsound or are believed to pose a long-term threat to determine the best course of action.
- Another consideration in removal of trees is the contribution to shading in areas prone to frost and ice formation on the highway surface. When such areas are identified, the surrounding canopy may be thinned through selective removal of large trees on the right of way.

1.3.2. Methods

- Hazard trees are removed in such a manner to minimize damage and impact to the highway structure and other healthy trees and under-story vegetation.

2. INTEGRATED VEGETATION MANAGEMENT ACTIVITIES

For all vegetation management needs not addressed through routine maintenance as described above, activities are planned and carried out using the principles of Integrated Vegetation Management (IVM) and the decision making process diagrammed on Page 5 in **Figure 3**. IVM is a coordinated decision making process that uses the most appropriate vegetation management methods and strategy, along with a monitoring and evaluation system, to achieve long term roadside maintenance goals and objectives in an environmentally and economically sound manner. The goal in utilizing the IVM approach is the effective control of unwanted vegetation and the establishment of stable, low maintenance native or naturalized plant communities on the roadside that are compatible with:

- Highway maintenance and safety objectives.
- Preservation of environmental quality.
- Weed control requirements.
- The concern's of WSDOT's customers and neighbors.

Long term, the use of the IVM approach can reduce the intensity and cost of maintenance, as well as minimizing the need to use herbicides.

2.1. Integrated Vegetation Management Planning and Tracking Database

2.1.1. Guidelines

- An Integrated Vegetation Management Records database is available for use. This database is accessed through the same WSDOT network application as the Pesticide Application Records database.
- Any activities focused on treatment of a specific location and species infestation, or focused on treatment of any types of unwanted vegetation throughout the area will be documented with an initial IVM record outlining the long-term treatment plan. These same records will be updated over time whenever planned treatments are carried out, or when observations are made as to the success or failure of past treatments.
- Treatment records may be printed out and inserted into **Appendix G**.

2.2. Noxious Weed Control

2.2.1. Guidelines

- Noxious weed control is a high priority for WSDOT because of state law requiring control of designated species. Transportation rights of way are high priority locations for control of noxious weed species within the state because they cross and link so many adjacent properties and land uses.
- Whenever possible treatment of designated noxious weed species and infestations locations will be documented and treated following plans as defined by IVM record forms in the database.
- Washington State Law classifies noxious weeds in three classes: A, B, and C. All Class A species are required control wherever they occur statewide. The law allows for individual county weed boards to designate individual Class B and C weeds for control within the counties depending on how widespread and potentially harmful they are at the local level.

- For the purposes of this plan, noxious weeds are defined as species within any class designated or prioritized by the weed boards for control on state highway rights of way within the counties.
- For NW Region, Area 2 the following weeds designated for control are known to exist on state highway rights of way in Snohomish, Skagit, Island, and Whatcom Counties:

Class A
Class A noxious weeds are non-native species with a limited distribution in the state. No Class A weeds are known to exist on WSDOT rights of way in this area.

Class B
Class B weeds are more widespread than Class A, with control mandated by law only if infestations are generally limited and the species are designated within the individual counties by the County Noxious Weed Control Boards. The following designated Class B species are known to exist on WSDOT right of way in NW Region, Area 2:

Common Name/Botanical Name	***Sno***	***Skg***	***Isl***	***Wht***
Knotweed sp./Polygonum sp.	◆	◆	◆	◆
Ragwort tansy/Senecio jacobaea	◆	◆	◆	◆
Toadflax dalmation/Linarea dalmatica	◆	◆	◆	◆
Hawkweed sp./Heiracium sp.	◆	◆	◆	◆
Knapweed sp./Centaurea sp.	◆	◆	◆	◆
Broom, scotch/Cytisus scoparius		◆		

Class C
Class C noxious weeds are widely established throughout Washington or may impact the agricultural industry. The County Noxious Weed Control Boards also have the power to designate Class C species for control. The following Class C noxious weeds are known to exist on state right of way in NW Region, Area 2:

Common Name/Botanical Name	***Sno***	***Skg***	***Isl***	***Wht***
Thistle, Canada/Cirsium arvense	◆	◆	◆	◆
Thistle, bull/Cirsium vulgare	◆		◆	◆
Hemlock, poison/Conium macul.	◆	◆	◆	◆

2.2.2. Methods

- Because noxious weed species are often difficult to control, herbicides treatments are often the primary, initial means of control.
- If infestations are limited to a few plants, hand pulling is also effective when the entire root system is also removed. Maintenance employees are encouraged to be aware of and look for new noxious weed occurrences, and to stop and pull these plants whenever possible.
- In conjunction with weed control treatments, a variety of other measures may be taken to promote natural vegetative competition through seeding, planting, and soil enhancement. The IVM Record and database are essential to the execution and success of these control measures.

- For recommended treatments specific to noxious weed species, see **Appendix A, IVM Prescriptions, Noxious Weed Control**

2.2.3. Locations

- **Appendix E, Noxious Weed Location Map** shows locations where the most critical reoccurring infestations of noxious species exist in Northwest Region, Area 2. There are a number of noxious weed locations not currently mapped, the list of locations will be added to and updated annually.

2.3. Nuisance Weed Control

2.3.1. Guidelines

- For the purposes of this plan, nuisance weed species are defined as species listed as Class B and C weeds on the state noxious weed lists, but not required for control within individual counties.
- Nuisance weed control, while not required by state law, provides many positive benefits to the overall condition of the roadside, enhances ecological function by maintaining and enhancing native plant communities, reduces the potential for continuing spread of weed infestations, and enhances visual quality.
- Nuisance weed species will be controlled when time and budget allows.
- Priority will be given to locations with the highest chance for success including relatively new infestations and where there is potential for infestations to spread to un-infested areas of the right of way or to un-infested neighboring properties.
- Species designated as nuisance weeds in NW Region, Area 2 that are known to exist on the highway right of way include:

Common Name/Botanical Name
Himalayan blackberry/Rubus discolor
Scotch broom/Cytisus scoparius
Butterfly bush/Buddleia davidii
Common tansy/Tanacetum vulgare
St. Johnswort/Hypericum perforatum
Yellow Toadflax/Linaria vulgaris
Common Mullein/Verbascum thapsus

2.3.2. Methods

- Control measures for nuisance weed are dependent on the type of plant.
- Woody species such as Scotch broom and Himalayan blackberry are most effectively treated with a combination of cutting, herbicide treatments and encouragement of native vegetation.
- Perennial species such as Canada thistle are most effective controlled by succeeding years of properly timed herbicide applications.
- Annual or biennial species such as bull thistle and common tansy may also be effectively controlled with herbicide applications when

plants are in the rosette stage in spring, or by hand pulling prior to seed set.
- See **Appendix A, IVM Prescriptions, Nuisance Weed Control**.

2.4. Tree and Brush Control

2.4.1. Guidelines

- Trees and brush are controlled for safety reasons including preservation of sight distance at curves and intersections, and for visibility of signs, and preventing trees with large trunk diameter from growing too close to traffic lanes.
- Native large shrub and small tree species should be allowed to grow and mature in Zone 2 and selectively trimmed if they begin to encroach on site distance or other traffic operational requirements.
- Large coniferous or hardwood deciduous tree species such as Douglas fir, bigleaf maple, alder, or cottonwood left to grow in Zone 2 and in some cases parts of Zone 3, can reach substantial size over a relatively short period of time and should be removed when young.
- Any tree with a trunk diameter of 4" or greater is considered a hazard for errant vehicles in Zone 2 and should be removed. This zone is also referred to as the Design Clear Zone and is typically maintained to a width of 30' from the traffic lane edge. Actual minimum widths are determined by roadway alignment, traffic speed and volume, and cross-section of the roadside, as specified in the WSDOT Design Manual, Chapter 700.04. *www.wsdot.wa.gov/fasc/EngineeringPublications/Manuals/DesignManual.pdf*

2.4.2. Methods

- Removal of undesirable tree and brush species is typically accomplished by hand cutting, hand pulling, properly timed selective mowing, properly timed herbicide applications, or combinations thereof.
- In some locations it is most effective to mow back the majority of the existing vegetation and then selectively treat undesirable re-growth with herbicides in succeeding years, allowing desirable vegetation to grow up around and form a competitive cover.
- In some cases when tree and brush species are cut by hand, the debris can be fed through a chipper and placed back on the roadside in the form of mulch for soil enhancement and weed prevention.
- Timing of activities has a significant effect on how the vegetation grows back. Herbicide applications made by hand, directly to the cut surfaces of undesirable plants may be used to reduce or eliminate grow back.
- Chemical control methods will not be used on conifers greater than 2 feet in height and/or large dense patches of young trees, to avoid unnecessary negative visual impacts from "brown-out".
- Chemical control methods will not be used on deciduous plants until after the first of September, except for as stump treatments in conjunction with mechanical cutting to eliminate grow-back.

- When possible, safe and practical, seedling of desirable trees may be dug or pulled by hand and transplanted to areas where there growth will be beneficial and appropriate. Agreements may be signed to allow private citizens to collect seedlings for use as transplants.
- See **Appendix A, IVM Prescriptions, Tree and Brush Control**.

3. SPECIAL MAINTENANCE AREAS

Special Maintenance Areas are any locations with unique maintenance requirements or special considerations for roadside management. These areas may include interchanges, community entrances or enhancement areas, areas maintained by cities, bicycle paths, storm water retention ponds, state park land, wellheads, environmentally sensitive areas, school zones and roadsides adjacent to individual properties with current or annual no-spray agreements.

3.1. Interchanges/Intersections

3.1.1. Guidelines

- Interchange areas are sometimes developed to a greater level than general roadside areas to include storm water management facilities, pedestrian areas, and permanent vegetation designed for screening, and visual enhancements for community entrances.

3.1.2. Locations

- Interchanges and intersections with unique maintenance considerations are listed in **Appendix F**, along with notes describing practices for each location.

3.2. Bicycle/Pedestrian Paths

3.2.1. Guidelines

- In some cases agreements were made in the design and construction process, requiring WSDOT to maintain pathways and sidewalks.
- Paths and sidewalks may require special attention from maintenance to ensure the safety of users and to enhance the appearance of the local community.

3.2.2. Locations

- Locations where sidewalks or bicycle paths are maintained by WSDOT are referenced by the adjacent route and begin and end milepost in **Appendix F**.

3.3. City Maintenance Areas

3.3.1. Guidelines

- In most cases where non-limited access highways exist within city limits, the roadside (all area outside the highway pavement and drainage systems) are maintained by the local city government.

3.3.2. Locations

- Areas where roadsides are maintained by cities are listed by route and begin and end milepost in **Appendix F**.

3.4. Herbicide Sensitive Areas

3.4.1. Guidelines

- In some situations herbicide use is limited or restricted because of legal requirements, neighbor concerns, or WSDOT imposed environmental safety precautions.
- In these locations, vegetation must be managed without the use of herbicides or with only a limited palette of herbicide types.
- In some locations, individuals have registered with Washington State Department of Agriculture as being pesticide sensitive. If these individual reside within ½ mile of the highway, the law requires that WSDOT notify them prior to application of herbicides.

3.4.2. Locations

- The only areas in NW Region, Area 2 outside of Whidbey Island that require special considerations for herbicide use are in the North Cascades National Recreation Area.
- The list of pesticide sensitive individuals changes annually, supervisors and herbicide applicators should reference the most current list to see if any notifications are required prior to spraying in any location.

3.5. Adopt-a-Highway and Neighbor Maintained Agreements

3.5.1. Guidelines

- In some locations WSDOT has signed agreements with private citizens or neighboring businesses for maintenance of roadside vegetation.

3.5.2. Locations

- Areas with existing agreements for others to maintain a portion of the roadside are listed in **Appendix F**, along with notes describing arrangements for each location.

3.6. Storm Water Management Facilities

3.6.1. Guidelines

- Storm water management facilities include bio-filtration swales, retention ponds and infiltration ponds.
- Storm water management facilities are managed for noxious and nuisance weeds, and hazard trees following the same guidelines mentioned in previous sections. The primary objectives with regard vegetation management within these facilities are maintenance of the functionality in terms of the designed volume of retention and water flow, and the maintenance of the surrounding fence
- Trees and brush should be cleared along both sides of the perimeter fencing for a width of approximately 8 feet as needed.
- Inlets and outfalls should be kept clear of vegetation and debris.

3.6.2. Locations

- Stormwater management facilities are listed by route and milepost in **Appendix F**.

3.7. Wetland Mitigation Sites

3.7.1. Guidelines

- Wetland mitigation sites are carefully monitored through WSDOT's Environmental Services Office for up to 10 years following their creation to ensure compliance with environmental regulation.
- In most cases vegetation in these sites is planted and established through the construction and long-term monitoring process so that once they are turned over to maintenance, actions are not required unless noxious weeds or hazardous trees become an issue.
- In cases where mitigation sites have fulfilled their original permit requirements and have been turned back to maintenance, sites should be inspected on an annual basis to determine if any repairs or weed control is necessary.

3.7.2. Locations

- All wetland mitigation sites within NW Region, Area 2 are listed by the nearest route and milepost, and the year scheduled for turnover to maintenance, in **Appendix F**.

3.8. IVM Treatment Sites

3.8.1. Guidelines

- As discussed in **Section 2.1**, selected sites are designated for planning, carrying out and monitoring multi-year IVM treatments for control of weeds or other unwanted vegetation.
- IVM treatment sites are documented with an initial record in the IVM Treatment Database, to identify the problem to be addressed, location(s), management goals, and integrated treatment plan.
- Records are updated each time a treatment is made, results observed, or when the treatment plan is modified based on observations.

3.8.2. Locations

- All designated IVM treatment sites within NW Region, Area 2 are listed by the route and milepost in **Appendix F**. This list is updated annually as new sites may be added and successfully treated sites removed.

Zone 1 Maintenance - Bareground Treatment

	OPTION 1	OPTION 2	OPTION 3	OPTION 4
TREATMENT TYPE:	Gravel shoulder	Gravel shoulder	Gravel shoulder	Gravel shoulder
MANAGEMENT GOALS:	Vegetation free	Vegetation free	Vegetation free	Vegetation free
METHOD:	Annual herbicide application	Annual herbicide application	Annual herbicide application	Annual herbicide application
EQUIPMENT:	Spray truck w/ banned width nozzles	Spray truck w/ banned width nozzles	Spray truck w/ banned width nozzles	Spray truck w/ banned width nozzles
MATERIALS:	Payload 8 oz./acre + Oust 3 oz./acre	Milestone VM 7 oz./acre + Round Up Pro 64 oz./acre	Round Up Pro 64-128 oz./acre	Landmark 4.5-7 oz./acre + Razor Pro 64 oz./acre
TIMING:	Early Spring or Fall	Early Spring	Early to mid June	Early Spring
IVM FOLLOW-UP:	Evaluate control	Evaluate control	Evaluate control	Evaluate control
REMARKS:	Typically applied in a 2 to 3 ft. band.			

Zone 1 Maintenance - Bareground Treatment

	OPTION 5			
TREATMENT TYPE:	Around senstive locations			
MANAGEMENT GOALS:	Vegetation free			
METHOD:	Annual herbicide application			
EQUIPMENT:	Spray truck w/ banned width nozzles			
MATERIALS:	Aquanet at 64 oz./acre + LI700 at 32 to 64 oz./100 gal.			
TIMING:	Early Spring or Fall			
IVM FOLLOW-UP:	Evaluate control			
REMARKS:	Typically applied in a 2 to 3 ft. band.			

Zone 2 Maintenance - Tree and Brush

	OPTION 1	OPTION 2	OPTION 3	OPTION 4
TREATMENT TYPE:	Confir control	Deciduous tree and brush	Deciduous tree and brush	Deciduous tree and brush
MANAGEMENT GOALS:	Control vegetation obstruction	Control vegetation obstruction	Control vegetation obstruction	Control vegetation obstruction
METHOD:	Herbicide treatment	Herbicide treatment	Herbicide treatment	Stump Treatment
EQUIPMENT:	Spray truck w/ banned width nozzles	Spray truck w/ banned width nozzles	Spray truck w/ banned width nozzles	Dobber or Spray bottle
MATERIALS:	Garlon 3A 128 oz. and Escort 1 oz.	Milestone VM 5-7 oz. plus Garlon 3A 64 oz.	Krenite S	Garlon 3A 50/50 with water or suf. Garlon 4 50/50 with water or suf.
TIMING:	Late summer, early fall	Late summer, early fall	Late summer before leaf turn	Anytime
IVM FOLLOW-UP:	Evaluate control	Evaluate control	Evaluate control	Evaluate control
REMARKS:	Avoid brown out by spraying late in the season and spray only to appropriate height.			

Noxious Weed Control - Japanese Knotweed

	OPTION 1	OPTION 2		
TREATMENT TYPE:	Chemical application	Stem injection		
ACTION THRESHOLD:	Whever present (dependent on available resources)	Smaller infestations and or near water		
MANAGEMENT GOALS:	Eradication and control only if your county requires.	Eradication and control only if your county requires.		
METHOD:	Spot treatment w/ heribicde	Stem injection w/ herbicide		
EQUIPMENT:	Truck mounted sprayer where possible, backpack sprayer where necessary.	Injection equipment		
MATERIALS:	Habitat/MSO 0.5-1 lbs. per acre	Concentrated Roundup at 2%		
TIMING:	Early to late bloom between July and August	Once seasonal growth has occurred		
IVM FOLLOW-UP:	Reapply if necessary following year. Restore site w/ native vegetation.	Re-treat green stems as necessary. Restore site w/ native vegetation		
REMARKS:				

Noxious Weed Control - Tansy Ragwort

	OPTION 1	OPTION 2	OPTION 3	OPTION 4
TREATMENT TYPE:	Chemical application	Chemical application	Manual	Bio-Control
ACTION THRESHOLD:	As soon as plants appear.	As soon as plants appear.	As soon as plants appear.	
MANAGEMENT GOALS:	Eradication and control if required by county.	Eradication and control if required by county.	Eradication and control if required by county.	Eradication and control if required by county.
METHOD:	Spot treatment w/herbicide	Spot treatment w/herbicide	Hand removal. May include cut stem.	
EQUIPMENT:	Tank spayer where possible, backpack spayer where necessary.	Tank spayer where possible, backpack spayer where necessary.		
MATERIALS:	Escort 1/2 to 1 oz./acre	Milestone VM 5 to 7 oz./acre	None required. Round -up in spray bottle for cut stem.	Flea beetle/Cinebar Moth
TIMING:	Spray by May	Spray by June	Pull by June	
IVM FOLLOW-UP:	Reapply as necessary. Seed and fertlize to reduce weed competition.	Reapply as necessary. Seed and fertlize to reduce weed competition.	Repeat as necessary. Seed and fertlize to reduce weed competition.	
REMARKS:				

Noxious Weed Control - Dalmation Toadflax

	OPTION 1	OPTION 2	OPTION 3	
TREATMENT TYPE:	Chemical application	Chemical application	Chemical application	
ACTION THRESHOLD:	As soon as plants appear.	As soon as plants appear.	As soon as plants appear.	
MANAGEMENT GOALS:	Eradication and control only if your county requires.	Eradication and control only if your county requires.	Eradication and control only if your county requires.	
METHOD:	Spot treatment w/ heribicde	Spot treatment w/ heribicde	Spot treatment w/ heribicde	
EQUIPMENT:	Backpack sprayer or spray bottle, pickup, etc.	Backpack sprayer or spray bottle, pickup, etc.	Backpack sprayer or spray bottle, pickup, etc.	
MATERIALS:	Telar at label rates w/ silicon based surfactant at 2 to 3 oz./acre	Escort 1 to 2 oz./acre	Plateau 12 oz./acre with methylated seed oil	
TIMING:	When in bloom between June and August	When in bloom between June and August	Apply in the fall	
IVM FOLLOW-UP:	Reaply as necessary. Seed and fertlize to reduce weed competition.	Reaply as necessary. Seed and fertlize to reduce weed competition.	Reaply as necessary. Seed and fertlize to reduce weed competition.	
REMARKS:				

Noxious Weed Control - Hawkweed sp.

	OPTION 1	OPTION 2		
TREATMENT TYPE:	Chemical application	Chemical application		
ACTION THRESHOLD:	Apply while actively growing	Apply while actively growing		
MANAGEMENT GOALS:	Eradication of listed noxious weeds.	Eradication of listed noxious weeds.		
METHOD:	Power sprayer	Power sprayer		
EQUIPMENT:	Spray tank	Spray tank		
MATERIALS:	Milestone VM 4 to 6 oz./acre	Transline .66 to 1 pint/acre		
TIMING:	Bolting stage	Bolting stage		
IVM FOLLOW-UP:	Multiple treatment as needed	Multiple treatment as needed		
REMARKS:				

Noxious Weed Control - Knapweed sp.

	OPTION 1	OPTION 2	OPTION 3	
TREATMENT TYPE:	Chemical application	Chemical application	Manual	
ACTION THRESHOLD:	As soon as plants appear.	As soon as plants appear.		
MANAGEMENT GOALS:	Eradication and control if required by your county.	Eradication and control if required by your county.	Eradication and control if required by your county.	
METHOD:	Spot treatment w/ herbicide	Spot treatment w/ herbicide is most affective.	Hand removal. Roots must also be removed. Remove plant from site.	
EQUIPMENT:	Tank sprayer where possible, backpack sprayer where necessary	Tank sprayer where possible, backpack sprayer where necessary.	Labor, transporation	
MATERIALS:	Milestone 5 to 7 oz./acre	Transline .66 to 1.33 pints/acre	none required	
TIMING:	Early budding stages	Early budding stages	Early budding stages	
IVM FOLLOW-UP:	Reapply as necessary. Seed and fertlize to reduce weed competition.	Reapply as necessary. Seed and fertlize to reduce weed competition.	Repeat as necessary. Seed and fertlize to reduce weed competition.	
REMARKS:				

Noxious Weed Control - Scotch broom

	OPTION 1	OPTION 2	OPTION 3	OPTION 4
TREATMENT TYPE:	Chemical application	Manual application	Mechanical application	Bio-Control
ACTION THRESHOLD:	Whever new infestations occur (dependant on available resources)	Wherever present (dependant on available resources)	When resources are available.	When ever present
MANAGEMENT GOALS:	Minimize populations and prevent further spread of weed.	Minimize populations and prevent further spread of weeds.	Minimize populations and prevent further spread of nuisance weeds.	Minimize spread
METHOD:	Foliar treatment w/herbicide.	Hand pull	Mechanical control with follow-up cut stump treatment.	Bio-Control
EQUIPMENT:	Truck mounted sprayer where possible, backpack sprayer where necessary.	Weed wrench option, brown brush monitor	Mower, backpack sprayer where necessary.	Truck
MATERIALS:	Garlon 3A at 2 quartz with Escort 2 oz. with Phase per acre	Garlon 4 mix 2 to 1 with crop oil	Garlon 3A at 1 to 1 with water or surfactant	Exapionfuscirostre
TIMING:	Apply during actively growing season	Anytime	After mowing	release when actively growing.
IVM FOLLOW-UP:	Reapply as necessary. Seed and fertilize or plant to restore native plant community.	Reapply as necessary. Seed and fertilize or plant to restore native plant community.	Re-cut/treat as necessary. Seed and fertilize or plant to restore native plant community.	Evaluate, redeploy if necessary
REMARKS:				

Noxious Weed Control - Canada Thistle

	OPTION 1	OPTION 2	OPTION 3	OPTION 4
TREATMENT TYPE:	Chemical application	Chemical application	Chemical application	Bio-Control
ACTION THRESHOLD:	Wherever present	Wherever present	Wherever present	Wherever present
MANAGEMENT GOALS:	Eradication and control of selected nuisance weeds and brush.	Eradication and control of selected nuisance weeds and brush.	Eradication and control of selected nuisance weeds and brush.	Eradication and control of selected nuisance weeds and brush.
METHOD:	Foliar treatment w/ herbicide	Foliar treatment w/ herbicide	Foliar treatment w/ herbicide	
EQUIPMENT:	Truck mounted sprayer where possible, backpack sprayer where necessary.	Truck mounted sprayer where possible, backpack sprayer where necessary.	Truck mounted sprayer where possible, backpack sprayer where necessary.	
MATERIALS:	Transline at 2/3 - 1 1/3 pint/acre	Milestone VM 5-7 oz./acre	Telar XP 1-3 oz./acre	Rhinocyllus Conicus
TIMING:	Apply from rosette to bud stage to actively growing thistle	Pre bud stage	Apply to the bud at bloom stage	Early growing season
IVM FOLLOW-UP:	Repeat annually as necessary	Apply before first frost	Apply before first frost	Redeploy as needed
REMARKS:	For most effective control, apply as a broadcast treatment to the entire infested area.			

Noxious Weed Control - Bull Thistle

	OPTION 1	OPTION 2	OPTION 3	OPTION 4
TREATMENT TYPE:	Chemical application	Chemical application	Chemical application	Bio-Control
ACTION THRESHOLD:	Wherever present	Wherever present	Wherever present	
MANAGEMENT GOALS:	Eradication and control of selected nuisance weeds and brush.	Eradication and control of selected nuisance weeds and brush.	Eradication and control of selected nuisance weeds and brush.	Eradication and control of selected nuisance weeds and brush.
METHOD:	Foliar treatment w/ herbicide	Foliar treatment w/ herbicide	Foliar treatment w/ herbicide	Bio-Control
EQUIPMENT:	Truck mounted sprayer where possible, backpack sprayer where necessary.	Truck mounted sprayer where possible, backpack sprayer where necessary.	Truck mounted sprayer where possible, backpack sprayer where necessary.	
MATERIALS:	Transline at 2/3 - 1 1/3 pint/acre	Milestone VM 3 to 5 oz. per acre	Telar XP 1-3 oz./acre	Urophora Stylata
TIMING:	Apply from rosette to bud stage to actively growing thistle	Apply to young actively growing weeds.	Apply to young actively growing weeds.	Early growing stage
IVM FOLLOW-UP:	Repeat annually as necessary	Repeat annually as necessary	Repeat annually as necessary	Reapply as necessary
REMARKS:				

Noxious Weed Control - Poison Hemlock

	OPTION 1	OPTION 2	OPTION 3	OPTION 4
TREATMENT TYPE:	Chemical application	Hand removal	Chemical application	Chemical application
ACTION THRESHOLD:	When plants appear	When plants appear	When plants appear	When plants appear
MANAGEMENT GOALS:	Eradication and control of listed noxious weeds.	Eradication and control of listed noxious weeds.	Eradication and control of listed noxious weeds.	Eradication and control of listed noxious weeds.
METHOD:	Spot treatment w/ herbicide	Hand removal. Remove plant from site	Spot treatment w/ herbicide	Spot treatment w/ herbicide
EQUIPMENT:	Backpack sprayer, pickup etc.	Labor, transporation	Backpack sprayer, pickup etc.	Backpack sprayer, pickup etc.
MATERIALS:	Telar 1 to 3 oz.	None required	Excort 1 to 2 oz./Phase	1 -2 percent per acre Glyphosate
TIMING:	Spray by April	Pull by Arpil	Apply to actively growing plan	Treat at bud to full bloom stage of growth
IVM FOLLOW-UP:	Reapply as necessary. Seed and fertilize to reduce weed competition.	Repeat as necessary. Seed and fertlize to reduce weed competition.	Repply as necessary	Reapply as necessary
REMARKS:	Use a nonionic surfactant or silicone surfactant			

Nuisance Weed Control - Himalayan Blackberry

	OPTION 1	OPTION 2		
TREATMENT TYPE:	Chemical application	Mechanical application		
ACTION THRESHOLD:	Whever present (dependant on resources)	When resources are available.		
MANAGEMENT GOALS:	Control and eradicate if county requires.	Minimize populations and prevent further spead of weed.		
METHOD:	Foliar treatment w/ herbicide	Mechanical control with follow-up cut stump treatment.		
EQUIPMENT:	Truck mounted sprayer where possible, backpack spayer where necessary.	Mower or hand labor, backpack spayer or spray bottle where necessary.		
MATERIALS:	Krenite 1.5-6 gallons/acre	Crossbow 1.25-1.5 gallons/acre		
TIMING:	In the Fall, after berries drop.	After mowing, in the fall.		
IVM FOLLOW-UP:	Reapply as necessary. Seed and fertilize or plant to restore native plant community	Re-cut/treat as necessary. Seed and fertilize or plant to restore native plant community.		
REMARKS:				

Nuisance Weed Control - Scotch broom

	OPTION 1	OPTION 2	OPTION 3	OPTION 4
TREATMENT TYPE:	Chemical application	Manual application	Mechanical application	Bio-Control
ACTION THRESHOLD:	Whever new infestations occur (dependant on available resources)	Wherever present (dependant on available resources)	When resources are available.	When ever present
MANAGEMENT GOALS:	Minimize populations and prevent further spread of weed.	Minimize populations and prevent further spread of weeds.	Minimize populations and prevent further spread of nuisance weeds.	Minimize spread
METHOD:	Foliar treatment w/herbicide.	Hand pull	Mechanical control with follow-up cut stump treatment.	Bio-Control
EQUIPMENT:	Truck mounted sprayer where possible, backpack sprayer where necessary.	Weed wrench option, brown brush monitor	Mower, backpack sprayer where necessary.	Truck
MATERIALS:	Garlon 3A at 2 quartz with Escort 2 oz. with Phase per acre	Garlon 4 mix 2 to 1 with crop oil	Garlon 3A at 1 to 1 with water or surfactant	Exapionfuscirostre
TIMING:	Apply during actively growing season	Anytime	After mowing	release when actively growing.
IVM FOLLOW-UP:	Reapply as necessary. Seed and fertilize or plant to restore native plant community.	Reapply as necessary. Seed and fertilize or plant to restore native plant community.	Re-cut/treat as necessary. Seed and fertilize or plant to restore native plant community.	Evaluate, redeploy if necessary
REMARKS:				

Nuisance Weed Control - Butterfly Bush

	OPTION 1	OPTION 2	OPTION 3	
TREATMENT TYPE:	Chemical application	Chemical application	Chemical application	
ACTION THRESHOLD:	Whever present	Whever present	Whever present	
MANAGEMENT GOALS:	Eradication	Eradication	Eradication	
METHOD:	Cut Stump	Broadcast spray	Broadcast spray	
EQUIPMENT:	Truck mounted sprayer where possible, backpack sprayer where necessary.	Power Spray	Power Spray	
MATERIALS:	Garlon 4 50/50 with MSO	Garlon 3A 64 oz./acre	Crossbow 64 oz./acre	
TIMING:	Late season	Early season to Mid season	Early season to Mid season	
IVM FOLLOW-UP:	Re-cut/treat as necessary.	Reapply if needed	Reapply if needed	
REMARKS:				

Nuisance Weed Control - Common Tansy

	OPTION 1	OPTION 2	OPTION 3	
TREATMENT TYPE:	Whever present	Whever present	Whever present	
ACTION THRESHOLD:	Whever present	Whever present	Whever present	
MANAGEMENT GOALS:	Eradication	Eradiction	Eradiction	
METHOD:	Foliar treatment. Cut stem treatment.	Foliar treatment	Foliar treatment	
EQUIPMENT:	Truck mounted sprayer where possible, backpack sprayer where necessary.	Truck mounted sprayer where possible, backpack sprayer where necessary.	Truck mounted sprayer where possible, backpack sprayer where necessary.	
MATERIALS:	Telar 1 to 3 oz./acre	Escort 1 to 2 oz./acre	Milestone VM 3 to 5 oz./acre	
TIMING:	Anytime	Apply to actively growing vegetation in the Spring	Apply to actively growing vegetation in the Spring	
IVM FOLLOW-UP:	Re-cut/treat as necessary.	Retreat as necessary	Retreat as necessary	
REMARKS:				

Nuisance Weed Control - St. Johnswort

	OPTION 1	OPTION 2	OPTION 3	
TREATMENT TYPE:	Chemical application	Chemical application		
ACTION THRESHOLD:	When resources are available.	When resources are available.		
MANAGEMENT GOALS:	Minimize populations and prevent further spread of nuisance weeds.	Minimize populations and prevent further spread of nuisance weeds.		
METHOD:	Foliar treatment, mechanical.	Foliar treatment, mechanical.		
EQUIPMENT:	Truck mounted sprayer where possible, backpack sprayer where necessary, mower.	Truck mounted sprayer where possible, backpack sprayer where necessary, mower.		
MATERIALS:	Milestone VM 5 to 7 oz./acres	1-2 oz./acre Escort plus Phase		
TIMING:	Apply after weeds emerge	Apply after weeds emerge		
IVM FOLLOW-UP:	Reapply as necessary	Reapply as necessary		
REMARKS:	Repeat application as needed			

Nuisance Weed Control - Yellow Toadflax

	OPTION 1	OPTION 2	OPTION 3	
TREATMENT TYPE:	Chemical application	Chemical application	Chemical application	
ACTION THRESHOLD:	As soon as plants appear.	As soon as plants appear.	As soon as plants appear.	
MANAGEMENT GOALS:	Eradication and control only if your county requires.	Eradication and control only if your county requires.	Eradication and control only if your county requires.	
METHOD:	Spot treatment w/ heribicde	Spot treatment w/ heribicde	Spot treatment w/ heribicde	
EQUIPMENT:	Backpack sprayer or spray bottle, pickup, etc.	Backpack sprayer or spray bottle, pickup, etc.	Backpack sprayer or spray bottle, pickup, etc.	
MATERIALS:	Telar at label rates w/ silicon based surfactant at 2 to 3 oz./acre	Escort 1 to 2 oz./acre	Plateau 12 oz./acre with methylated seed oil	
TIMING:	When in bloom between June and August	When in bloom between June and August	Apply in the fall	
IVM FOLLOW-UP:	Reaply as necessary. Seed and fertlize to reduce weed competition.	Reaply as necessary. Seed and fertlize to reduce weed competition.	Reaply as necessary. Seed and fertlize to reduce weed competition.	
REMARKS:				

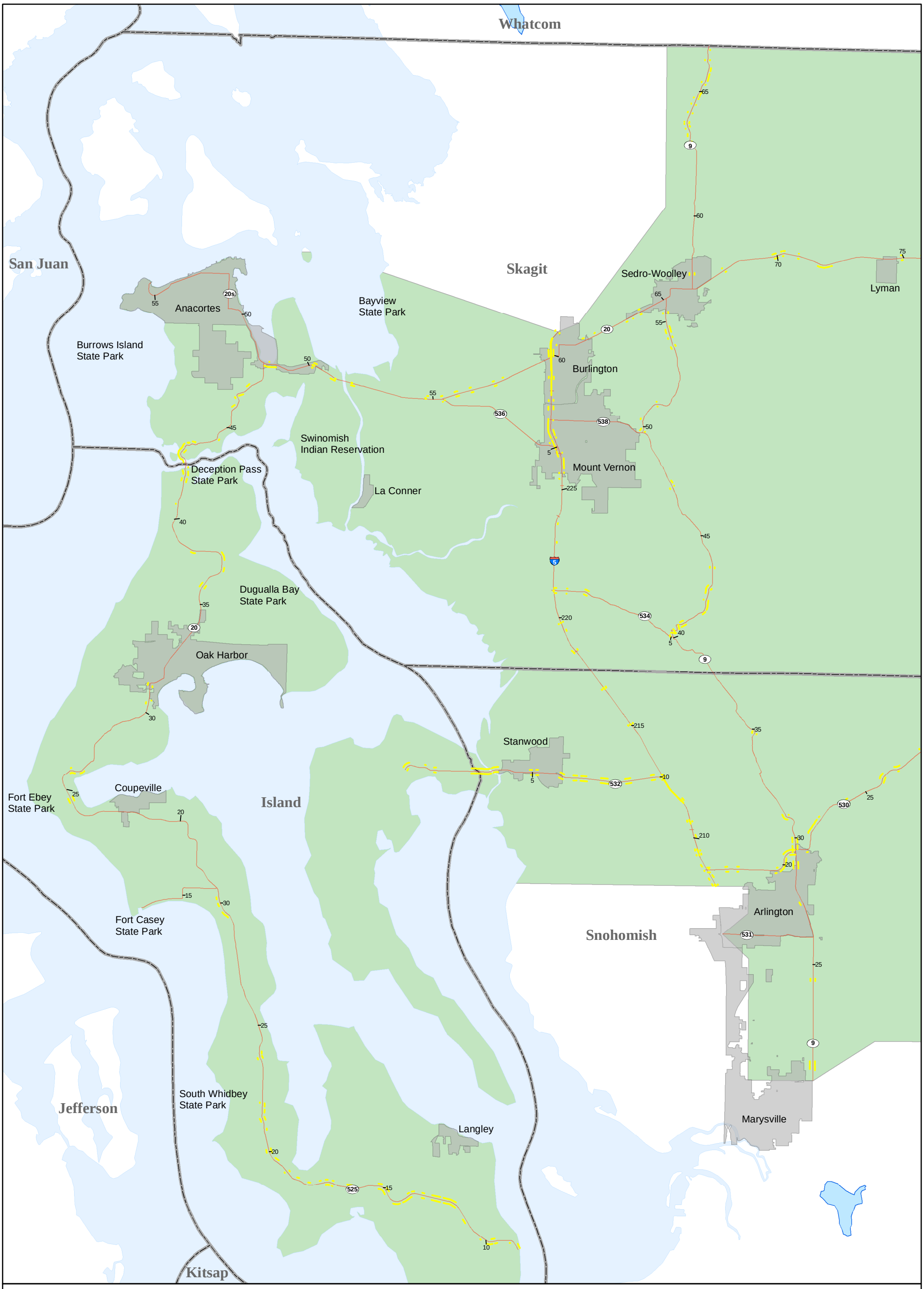
Nuisance Weed Control - Common Mullein

	OPTION 1			
TREATMENT TYPE:	Chemical application			
ACTION THRESHOLD:	Whe resources are available.			
MANAGEMENT GOALS:	Minimize population and prevent further spread of nuisance weeds.			
METHOD:	Foliar treatment, mechanical			
EQUIPMENT:	Truck mounted sprayer where possible, backpack spayer where necessary, mower.			
MATERIALS:	7oz./acre Milestone VM			
TIMING:	Spring			
IVM FOLLOW-UP:	Reapply as necessary. Seed and fertlize or plant to restore native plant community.			
REMARKS:				

Herbicides Approved for Use on WSDOT Rights of Way

When making herbicide applications:
1. Always read and follow product labels
2. Always use personal protective equipment when mixing, loading, and applying

Chemical Name	***Product Name(s)***	***Where Used***	***How/Why Used***	***Notes/Recommendations***	***Restrictions***	***Cautions***
2,4-D	Weedar 64 Amine 4 Veteran 720 Curtail WeedDestroy Platoon Crossbow Escalade Weedmaster Solution Savage Weedone LV4	Noxious and nuisance weed control, and tree and brush control, Zones 2 and 3	Selective broadleaf treatment	Ester and acid formulations of 2,4-D may provide a good alternative to amine formulations. A number of the 2,4-D products come premixed with other herbicides.	Amine formulations of 2,4-D are restricted for use within 60' of all water	Amine formulations cause irreversible eye damage and are highly toxic to rainbow trout. All 2,4-D products pose risks when applied near grapes and other sensitive crops.
Bromacil	Krovar 1 DF Hyvar	Zone 1	Nonselective pre-emergent grass and weed control	Krovar and Hyvar are premixed with diuron	Westside - Restricted for use Eastside - Krovar restricted for use within 60' of all water	Bromacil is potentially mobile in soil, use caution if rain is possible.
Bromoxynil	Buctril 2EC BroClean Brox 2E	Noxious and nuisance weed control, Zones 2 and 3	Selective broadleaf treatment	Effective broadleaf weed control without grass seed suppression	Westside - Restricted for use Eastside - Restricted for use within 60' of all water	Highly toxic to fresh water fish
Chlorsulfuron	Telar XP Landmark XP	Noxious and nuisance weed control, Zones 2 and 3	Selective broadleaf treatment	Product highly effective on Canadian thistle and horsetail. Landmark is premixed with Oust.	None	None
Clopyralid	Transline Curtail Pathfinder	Noxious and nuisance weed control, Zones 2 and 3	Selective broadleaf treatment	Curtail is premixed with 2,4-D, Pathfinder is premixed with triclopyr	Curtail and Pathfinder are restricted for use within 60' of all water because of mixture with other restricted herbicides.	Curtail contains 2,4-D amine which causes irreversible eye damage and is highly toxic to rainbow trout
Dicamba	Vanquish Veteran 720	Noxious and nuisance weed control, and tree and brush control, Zones 2 and 3	Selective broadleaf treatment	Vanquish is the dicamba formulation without 2,4-D	Veteran 720 is restricted for use within 60' of all water because of 2,4-D amine content	Veteran 720 contains 2-4-D amine which causes irreversible eye damage and is highly toxic to rainbow trout
Dichlobenil	Norosac 4G Casoron	Ornamental planting beds	Pre-emergent weed control in ground cover beds. Post emergent control of grasses.	Highly effective for pre-emergent control of unwanted weeds in ornamentals	Restricted for use within 60' of all water	Dichlobenil is highly toxic to aquatic insects
Diflufenzopyr	Overdrive	Noxious and nuisance weed control, Zones 2 and 3	Selective broadleaf treatment	None	None	None
Diuron	Karmex Diuron 4 L Diuron 80 DF	Zone 1	Nonselective pre-emergent grass and weed control	Cost effective weed control for Zone 1 in Eastern Washington	Westside - Restricted for use Eastside - Restricted for use within 60' of all water	Highly toxic to fish.
Flumioxazin	Payload	Zone 1	Nonselective pre-emergent grass and weed control	Second year of use in zone 1, still evaluating	Restricted for use within 60' of all salt water	Highly toxic to estuarine invertebrates
Fluroxypyr	Vista	Noxious and nuisance weed control, Zones 2 and 3	Selective broadleaf treatment	None	None	Highly toxic to Eastern Oyster, high surface runoff potential
Fosamine	Krenite S	Tree and brush control in Zones 2 & 3	Selective broadleaf treatment	Effective broadleaf tree control without visual impacts	None	None
Glyphosate	Roundup Pro Razor Pro Buccaneer Aquaneat Rodeo Aquamaster	Zone 1, spot spray around shrub and tree plantings, aquatic weed control (Rodeo, Aquamaster)	Nonselective control of all vegetation	Rodeo, Aquamaster and Aquaneat are approved for use in or over water. Aquatic versions of glyphosate products are approved for use with NPDES permit.	None	None
Imazapyr	Arsenal Habitat	Zone 1	Pre and post-emergent non-selective control of all vegetation	Habitat is an aquatic version of Arsenal - good alternative to glyphosate in certain cases	None	High surface runoff potential, potentially mobile in soil if rain is possible.
Isoxaben	Gallery 75DF	Turf & Ornamental	Pre-emergent weed control in ground cover beds	Works well by itself or with Ronstar	Restricted for use within 60' of all water	High surface runoff potential
Metsulfuron-methyl	Escort XP Metsulfuron Methyl 60 DF	Noxious and nuisance weed control, and tree and brush control, Zones 2 and 3	Selective broadleaf and conifer treatment	None	None	None
Norflurazon	Predict	Zone 1	Pre-emergent Weed control in Zone 1 and ground cover beds	Good Zone 1 product but may be difficult to keep in suspension	Restricted for use within 60' of all water	High surface runoff potential
Oryzalin	Oryzalin A.S. Surflan A.S	Zone 1 Ornamental planting beds	Pre-emergent Weed control in Zone 1 and ground cover beds	Product requires additional rinsing to thoroughly remove residues from empty container	Restricted for use within 60' of all water	Highly toxic to fish
Oxadiazon	Ronstar G Ronstar WSP	Turf & Ornamental	Pre-emergent weed control in ground cover beds	Works well by itself or with Gallery	Restricted for use within 60' of all water, gardens, plants bearing edible fruit	Highly toxic to fish
Pendimethalin	Pendulum 2G Pendulum Aqua	Zone 1 Turf & Ornamental	Nonselective Pre-emergent grass and weed control	None	Westside - Restricted for use Eastside - Restricted for use within 60' of all water	Highly toxic to fish, high potential for loss on eroded soil
Picloram	Tordon	Noxious and nuisance weed control, Zones 2 and 3	Selective broadleaf treatment	Highly effective for conifer and broadleaf weed control in Eastern Washington	Westside - Restricted for use Eastside - Restricted for use within 60' of all water	Highly mobile in soil and readily adsorbed through roots of desirable trees
Pyraflufen	Edict	Noxious and nuisance weed control, Zones 2 and 3	2,-4-D substitute, effective on Kochia, Russian thistle	Effective with Roundup for Kochia control	Restricted for use within 60' of all water	Irreversible eye damage, highly toxic to Rainbow Trout
Sulfentrazone	Portfolio	Zone 1	Nonselective pre-emergent grass and weed control	New product available for use in 2006	Westside - Restricted for use Eastside - Restricted for use within 60' of all water	High surface runoff potential, potentially mobile in soil if rain is possible.
Sulfometuron-methyl	Oust Landmark XP	Zone 1	Nonselective pre/post emergent grass and weed control	Landmark is premixed with Telar	None	None
Tebuthiuron	Spike 80DF	Zone 1	Nonselective pre-emergent grass and weed control	None	Westside - Restricted for use Eastside - Restricted for use within 60' of all water	High surface runoff potential, potentially mobile in soil if rain is possible.
Triclopyr Amine	Garlon 3A	Noxious and nuisance weed control, and tree and brush control, Zones 2 and 3	Selective broadleaf treatment	None	None	Irreversible eye damage
Triclopyr Ester	Garlon 4 Crossbow Pathfinder	Noxious and nuisance weed control, and tree and brush control, Zones 2 and 3	Selective broadleaf treatment	Works well for invert applications. Crossbow is premixed with 2,4-D, Pathfinder with clopyralid	Restricted for use within 60' of all water	Highly toxic to fish



25 Mile Post Marker
Zone 1 - Guardrail
State Route
County Boundaries
Tribal Reservation
State Park
City Limits
Major Lakes
Coast
NW Region Area 2

0 2.5 5
Miles

N

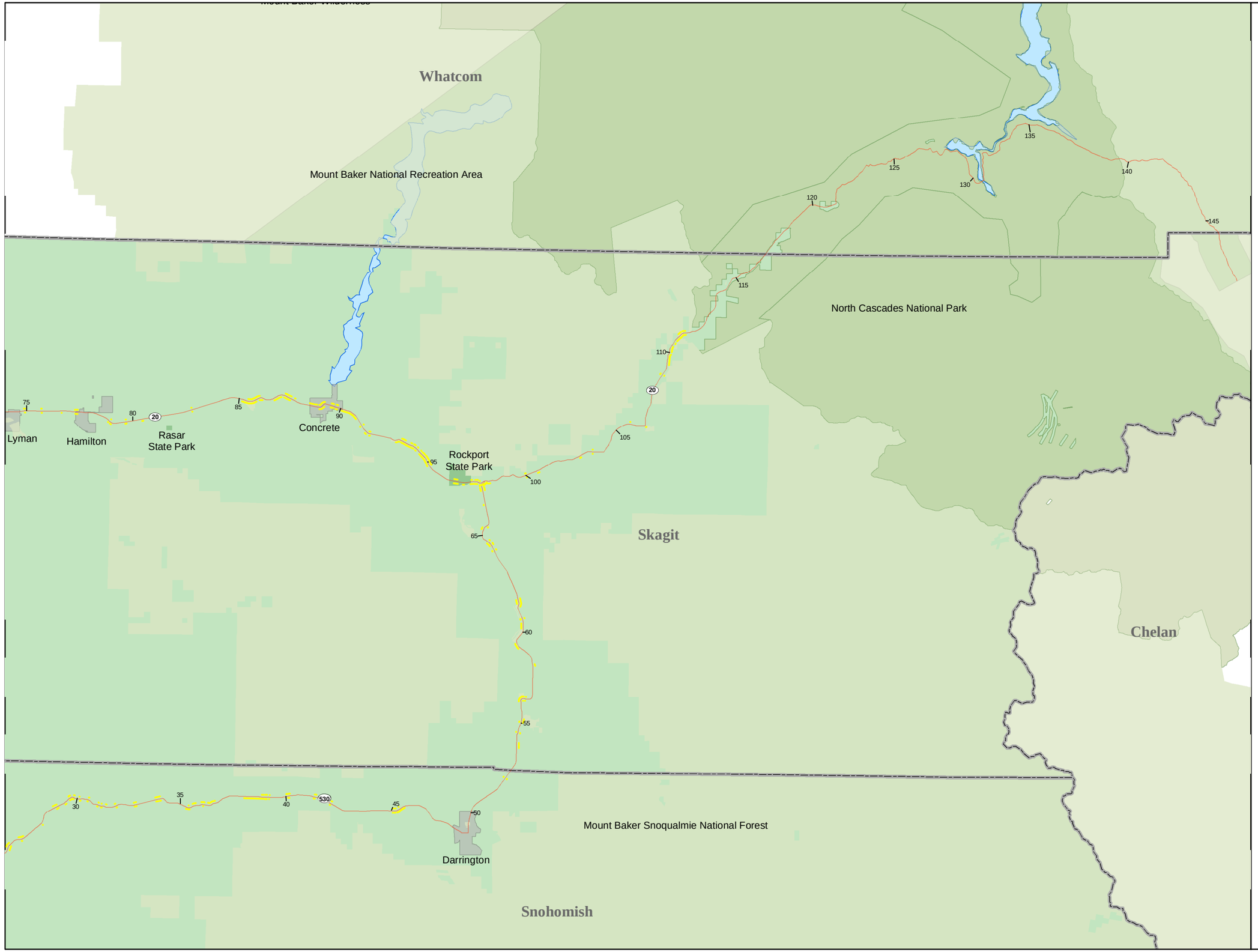
Washington State
Department of Transportation

Appendix C:
Northwest Region Area 2
Zone 1 Maintenance
Map 1 of 2

2009

Appendix C:

Northwest Region Area 2
Zone 1 Maintenance
Map 2 of 2



Legend

- 25 — Mile Post Marker
- Zone 1- Guardrail
- State Route
- County Boundaries
- National Forest
- State Park
- National Park
- City Limits
- Major Lakes
- Coast
- NW Region Area 2

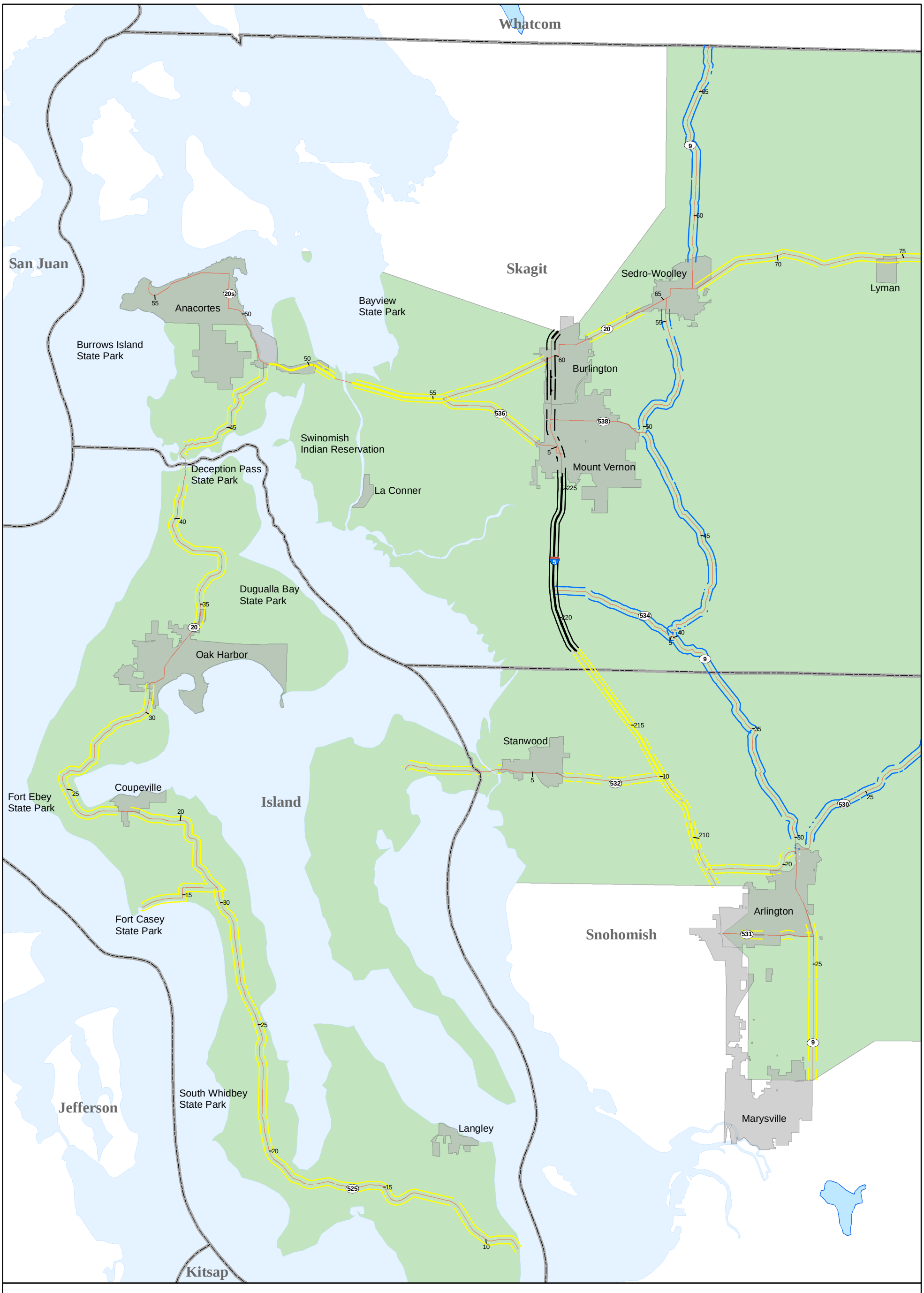
0 2.5 5
Miles

N

Washington State Department of Transportation

2009

GISWorkbench.mxd/ Date Printed



As Needed	Tribal Reservation
Multi Pass	State Park
Single Pass	City Limits
25 Mile Post Marker	Major Lakes
State Route	Coast
County Boundaries	NW Region Area 2

0 2.5 5
Miles

N

Washington State Department of Transportation

Appendix D:
Northwest Region Area 2
Routine Mowing
Map 1 of 2

2009

Appendix D:

Northwest Region Area 2
Routine Mowing
Map 2 of 2

Whatcom

Skagit

Chelan

Snohomish

Mount Baker National Recreation Area

North Cascades National Park

Mount Baker Snoqualmie National Forest

Lyman

Hamilton

Rasar State Park

Concrete

Rockport State Park

Darrington

20

530

75 80 85 90 95 100 105 110 115 120 125 130 135 140 145

30 35 40 45 50 55 60 65

Legend

- As Needed
- Multi Pass
- Single Pass
- 25 — Mile Post Marker
- State Route
- County Boundaries
- National Forest
- State Park
- National Park
- City Limits
- Major Lakes
- Coast
- NW Region Area 2

0 2.5 5
Miles

N

Washington State Department of Transportation

2009

GISWorkbench.mxd/ Date Printed

Designated for control in NW area 2:
(Snohomish, Skagit, Island, and Whatcom County)

Knotweed sp./
Polygonum sp.

Tansy Ragwort/
Senecio jacobaea

Dalmation Toadflax/
Linarea dalmatica

*Scotch Broom/
Cytisus scoparius

Canada Thistle/
Cirsium arvense

**Bull Thistle/
Cirsium vulgare

*Designate only in Skagit County
**Designate only in Snohomish, Island, and Whatcom County

Designated for control in NW area 2:
(Snohomish, Skagit, Island, and Whatcom County)

Hawkweed sp./
Heiracium sp.

Poison Hemlock/
Conium maculatum

Knapweed sp./
Centaurea sp.

Nuisance weeds in NW area 2:
(Snohomish, Skagit, Island, and Whatcom County

Himalayan Blackberry/
Rubus discolor

Scotch Broom/
Cytisus scoparius

Butterfly Bush/
Buddleia davidii

Common Tansy/
Tanacetum vulgare

St. Johnswort/
Hypericum perforatum

Yellow Toadflax/
Linaria vulgaris

Nuisance weeds in NW area 2:
(Snohomish, Skagit, Island, and Whatcom County

Common Mullein/
Verbascum thapsus

Whatcom

San Juan

Skagit

Island

Snohomish

Jefferson

Kitsap

Anacortes

Burrows Island
State Park

Bayview
State Park

Sedro-Woolley

Lyman

Burlington

Swinomish
Indian Reservation

Mount Vernon

Deception Pass
State Park

La Conner

Dugualla Bay
State Park

Oak Harbor

Fort Ebey
State Park

Coupeville

Stanwood

Fort Casey
State Park

Arlington

South Whidbey
State Park

Marysville

Langley

Bull Thistle
Japanese Knotweed
Orange Hawkweed
Scotch Broom
Tansy Ragwort
25 Mile Post Marker
State Route

County Boundaries
Tribal Reservation
State Park
City Limits
Major Lakes
Coast
NW Region Area 2

0 2.5 5
Miles

N

Washington State
Department of Transportation

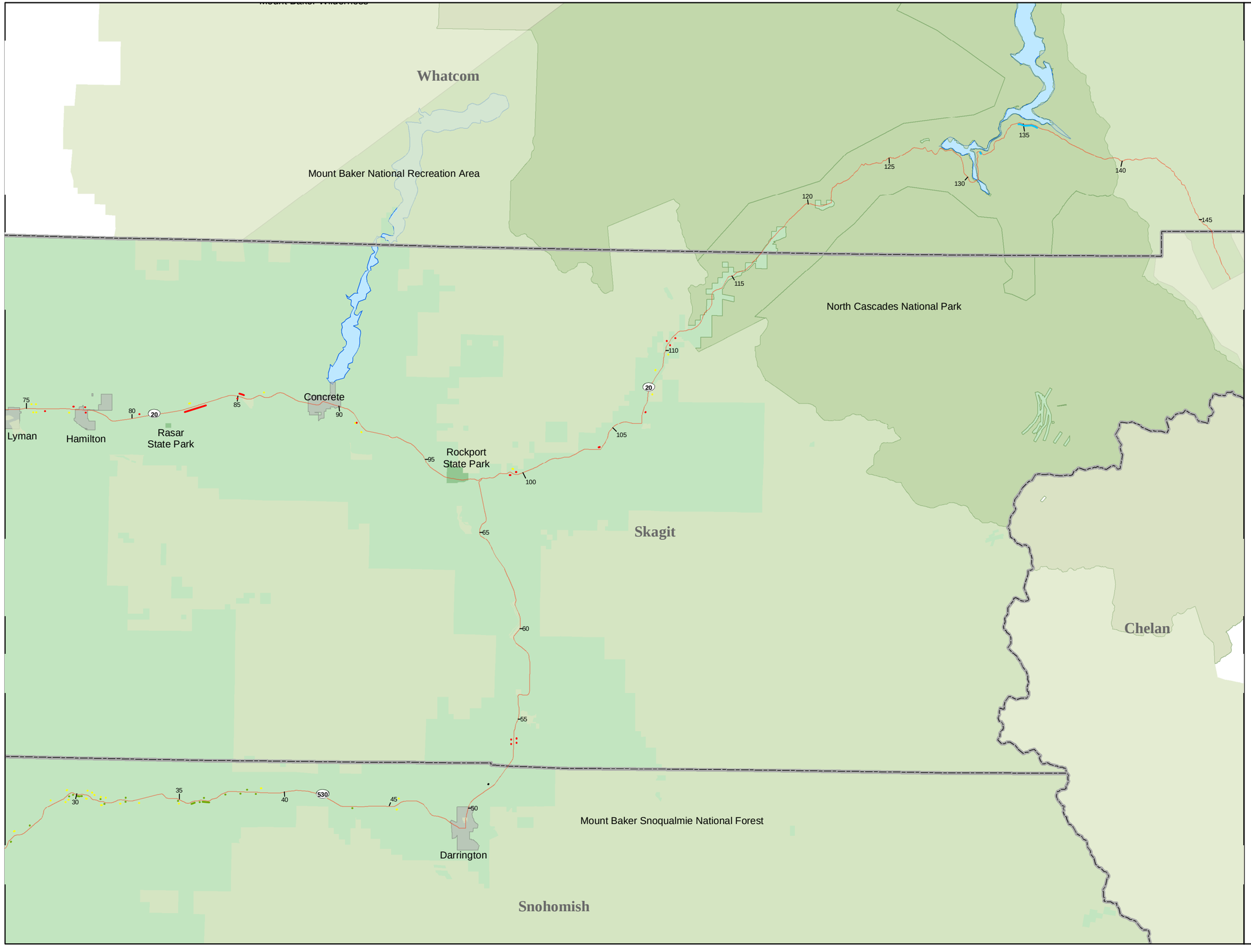
Appendix E:

Northwest Region Area 2
Noxious Weed Locations
Map 1 of 4

2009

Appendix E:

Northwest Region Area 2
Noxious Weed Locations
Map 2 of 4



Legend

- Bull Thistle
- Japanese Knotweed
- Orange Hawkweed
- Scotch Broom
- Tansy Ragwort
- 25 — Mile Post Marker
- State Route
- County Boundaries
- National Forest
- State Park
- National Park
- City Limits
- Major Lakes
- Coast
- NW Region Area 2

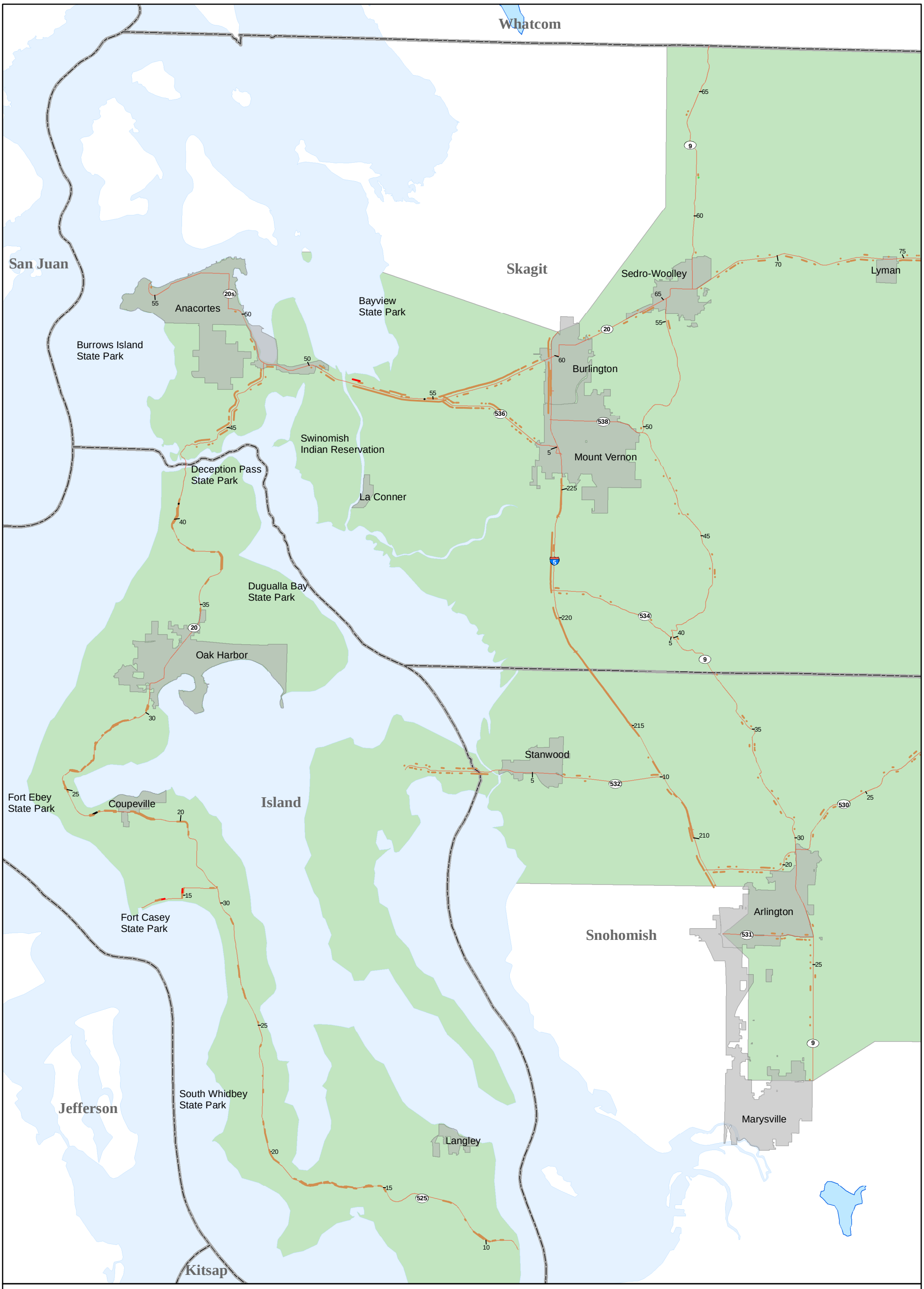
0 2.5 5
Miles

N

Washington State Department of Transportation

2009

GISWorkbench.mxd/ Date Printed



Canada Thistle
Dalmation Toadflax
Knapweed
Poison Hemlock
25 Mile Post Marker
State Route
County Boundaries
Tribal Reservation
State Park
City Limits
Major Lakes
Coast
NW Region Area 2

0 2.5 5
Miles

N

Washington State Department of Transportation

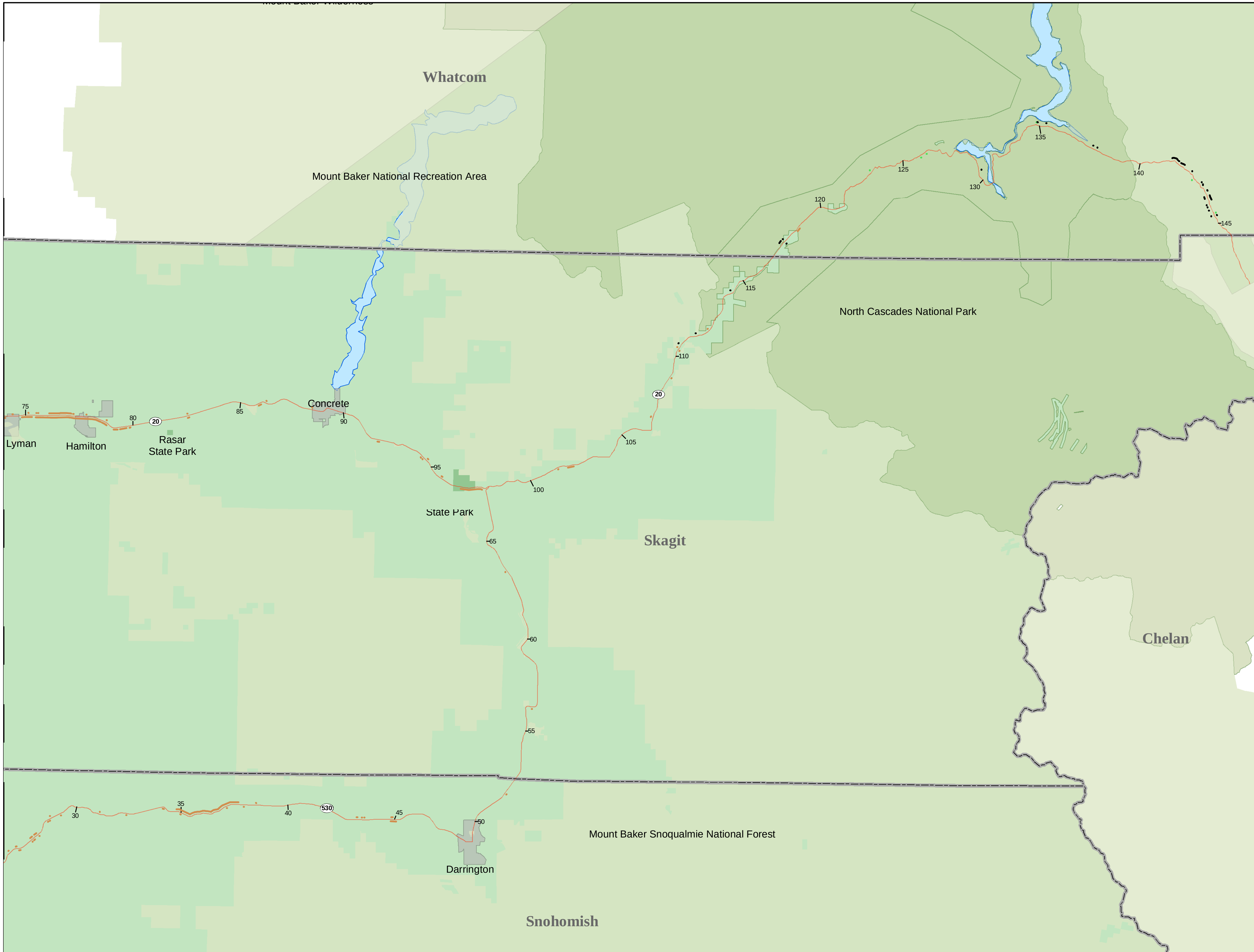
Appendix E:

Northwest Region Area 2
Noxious Weed Locations
Map 3 of 4

2009

Appendix E:

Northwest Region Area 2
Noxious Weed Locations
Map 4 of 4



Legend

Washington State Department of Transportation

2009

GISWorkbench.mxd/ Date Printed

Table 3.0

Locations are distinguished between the sides of the highway by right shoulder (RS) or left shoulder/median (LS) in relation to either increasing (INC) mile markers or decreasing (DEC) mile markers

Description - Brief explanation of special treatment required

SR	Direction	Shoulder	BEG MP	END MP	Type	Description
005	INC	RS	208.38	209.11	I/C Arlington and Darrington	
005	INC	RS	210.07	210.79	I/C 236th St. NE	
005	INC	RS	212.40	213.10	I/C Stanwood and Camano Is.	
005	INC	RS	214.81	215.45	I/C 300th St. NW	
005	INC	RS	214.93	214.94	Stanwood/Bryant Vicinity	Mitigation Site
005	INC	RS	218.29	219.06	I/C Starbird Rd.	
005	INC	RS	220.80	221.49	I/C Lake McMurray	
005	INC	RS	223.64	223.94	I/C Old Highway 99 S	
005	INC	RS	224.85	225.55	I/C Anderson Rd.	
005	INC	RS	226.12	226.69	I/C Kincaid St.	
005	INC	RS	227.45	228.14	I/C College Way	
005	INC	RS	228.54	229.33	I/C George Hopper Rd.	
005	INC	RS	229.81	230.41	I/C Burlington and Anacortes	
005	INC	RS	231.05	231.25	I/C Chuckanut Dr.	
005	DEC	RS	208.93	208.28	I/C Arlington and Darrington	
005	DEC	RS	210.62	209.90	I/C 236th St. NE	
005	DEC	RS	212.96	212.27	I/C Stanwood and Camano Is.	
005	DEC	RS	215.33	214.62	I/C 300th St. NW	
005	DEC	RS	218.95	218.11	I/C Starbird Rd.	
005	DEC	RS	221.36	220.66	I/C Lake McMurray	
005	DEC	RS	223.96	223.56	I/C Old Highway 99 S	
005	DEC	RS	225.45	224.69	I/C Anderson Rd.	
005	DEC	RS	226.66	225.96	I/C Kincaid St.	
005	DEC	RS	228.04	227.21	I/C College Way	
005	DEC	RS	229.12	228.46	I/C George Hopper Rd.	
005	DEC	RS	230.30	229.59	I/C Burlington and Anacortes	
005	DEC	RS	231.21	230.80	I/C Chuckanut Dr.	
005			Exit 221		Bulson Rd. Pit Site	
005			Exit 225		Little Mountain Pit Site	
009	DEC	RS	29.67	29.66	Stillaguamish River	Mitigation Site
009	Both	RS	26.58	28.98	City of Arlington	City maintained
009	Both	RS	29.13	29.32	City of Arlington	City maintained
009	Both	RS	29.38	29.47	City of Arlington	City maintained
009	Both	RS	55.45	55.89	City of Sedro Woolley	City maintained
009	Both	RS	55.87		RR crossing at grade	2C20.90
009	Both	RS	57.17	58.24	City of Sedro Woolley	City maintained
009	Both	RS	62.87		RR crossing at grade	1G94.29
009			30.08		Armstrong Pit Site	
009			32.7		Bryant Stockpile Site	
020	INC	RS	13.30	13.30	Neighbor maintained, including Zone 1 (NS 020)	

Table 3.0

Locations are distinguished between the sides of the highway by right shoulder (RS) or left shoulder/median (LS) in relation to either increasing (INC) mile markers or decreasing (DEC) mile markers

Description - Brief explanation of special treatment required

SR	Direction	Shoulder	BEG MP	END MP	Type	Description
020	INC	RS	26.14	25.47	Herbicide Sensitive Area - adjacent to beach	
020	INC	RS	29.30	29.30	Neighbor maintained, including Zone 1 (NS 030)	
020	INC	RS	51.79	52.12	On Ramp	Mow out gore area
020	DEC	RS	15.20	15.20	Neighbor maintained, including Zone 1 (NS 026)	
020	DEC	RS	20.50	20.60	Neighbor maintained, WSDOT maintains Zone 1 (NS 007)	
020	DEC	RS	39.80	39.80	Unfenced stormwater retention pond	
020	Both	RS	14.97	12.88	Herbicide Sensitive Area - Keystone spit	
020	Both	RS	21.67	22.18	City of Coupeville	City maintained
020	Both	RS	30.77	33.69	City of Oak Harbor	City maintained
020	Both	RS	40.51	43.76	Deception State Park	
020	Both	RS	41.81	41.14	Deception Pass State Park	
020	Both	RS	47.66	49.95	City of Anacortes	City maintained
020	Both	RS	50.53	51.12	Swinomish Tribe	
020	Both	RS	59.31	61.43	City of Burlington	City maintained
020	Both	RS	59.94		RR crossing at grade	2C16.20
020	Both	RS	60.52		RR crossing at grade	2B72.20
020	Both	RS	63.73	66.29	City of Sedro Woolley	City maintained
020	Both	RS	88.21	89.82	City of Concrete	City maintained
020	Both	RS	92.71	93.08	Mount Baker Snoqualmie NF	
020	Both	RS	96.04	97.06	Rockport State Park	
020	Both	RS	110.52	110.81	Mount Baker Snoqualmie NF	
020	Both	RS	112.27	148.10	Ross Lake Nat. Rec. Area	
020			24.1		Kettles Pit Site	
020			34.7		Ault Field Rd. Pit Site	
020			40.5		Unnamed Borrow Site	
020			51.7		Swinomish Stockpile Site	
020			82.35		Grandy Creek Pit Site	
020			83.9		Birdsview Stockpile Site	
020			84.65		Challenger Rd. Pit Site	
020			88.2		Cunningham Pit Site	
020			92.05		Moen Rd. Pit Site	
020			95.4		Sauk Pit Site	
020			96.4		Unnamed Pit Site	
020			98.8		Unamed Waste Site	
020			100		Swift Creek Roadside Park	
525	INC	RS	14.80	14.80	Unfenced stormwater retention pond	

Table 3.0

Locations are distinguished between the sides of the highway by right shoulder (RS) or left shoulder/median (LS) in relation to either increasing (INC) mile markers or decreasing (DEC) mile markers

Description - Brief explanation of special treatment required

SR	Direction	Shoulder	BEG MP	END MP	Type	Description
525	INC	RS	15.30	15.45	Neighbor maintained, WSDOT maintains Zone 1 (NS 027)	
525	INC	RS	17.90	17.90	Unfenced stormwater retention pond	
525	INC	RS	22.40	22.40	Unfenced stormwater retention pond	
525	INC	RS	22.55	22.55	Unfenced stormwater detention pond	
525	INC	RS	23.20	23.20	Fenced stormwater retention pond	
525	INC	RS	25.69	25.70	Cameron Road	Mitigation Site
525	INC	RS	26.45	27.40	Zone 1 Alternative Test Site - Vegetated shoulder	
525	INC	RS	26.45	26.60	Zone 2 and 3 Roadside Restoration Project (2004)	
525	DEC	RS	9.59	9.46	Zone 1 Alternative Test Site - Weedender under guardrail	
525	DEC	RS	11.70	11.90	Neighbor maintained drinking water	
525	DEC	RS	16.08	16.08	Fenced stormwater detention pond	
525	DEC	RS	18.05	18.04	Vicinity Greenbank	Mitigation Site
525	DEC	RS	18.99	18.99	Unfenced stormwater detention pond	
525	DEC	RS	20.40	20.40	Neighbor maintained, WSDOT maintains Zone 1 (NS 028)	
525	DEC	RS	21.90	21.90	Unfenced stormwater detention pond	
525	DEC	RS	23.60	23.60	Fenced stormwater detention pond	
525	DEC	RS	24.16	24.16	Neighbor maintained, WSDOT maintains Zone 1 (NS 019)	
525	DEC	RS	27.00	27.00	Unfenced stormwater detention pond	
525	DEC	RS	27.62	27.75	Neighbor maintained community	
525	DEC	RS	27.70	27.70	Unfenced stormwater detention pond	
525	DEC	RS	27.90	27.90	Unfenced stormwater detention pond	
525	DEC	RS	28.70	28.70	Unfenced stormwater detention pond	
525	DEC	RS	29.99	29.99	Fenced stormwater detention pond	
525	DEC	RS	30.20	30.20	Unfenced stormwater detention pond	
525	DEC	RS	30.50	30.50	Fenced stormwater retention pond	
525	Both	RS	8.48	26.45	No Zone 1 Evaluation Section	
525			9.05		Brookvale Stockpile Site	
525			9.2		Clinton Storage Site	
530	INC	RS	29.86	29.87	Cicero Pond	Mitigation Site
530	Both	RS	20.91	21.56	City of Arlington	
530	Both	RS	48.29	50.08	City of Darlington	
530	Both	RS	59.18	59.42	Mount Baker Snoqualmie NF	
530	Both	RS	60.25	60.40	Mount Baker Snoqualmie NF	
530	Both	RS	61.43	61.66	Mount Baker Snoqualmie NF	

Table 3.0

Locations are distinguished between the sides of the highway by right shoulder (RS) or left shoulder/median (LS) in relation to either increasing (INC) mile markers or decreasing (DEC) mile markers

Description - Brief explanation of special treatment required

SR	Direction	Shoulder	BEG MP	END MP	Type	Description
530			37.4		Unnamed Pit Site	
530			40.4		Boulder Creek Pit Site	
531	Both	RS	6.50	7.13	City of Arlington	City maintained
531	Both	RS	7.92	8.60	City of Arlington	City maintained
531	Both	RS	8.57		RR crossing at grade	1G57.60
531	Both	RS	9.12	9.60	City of Arlington	City maintained
532	Both	RS	3.80	6.20	City of Stanwood	City maintained
532			5.25		Unnamed Pit Site of Stanwood	
532			9.79		Heichel Storage Site	
534			1.5		Unnamed Pit Site	
536	Both	RS	4.13	5.38	City of Mount Vernon	City maintained
536	Both	RS	4.90		RR crossing at grade	7A.75
536	Both	RS	5.28		RR crossing at grade	2B67.70
538	Both	RS	0.00	3.40	City of Mount Vernon	City maintained
538	Both	RS	0.51		RR crossing at grade	2B69.28
542			20.65		Mutiny Bay Rd. Pit Site	

Washington State Department of Transportation

Integrated Vegetation Management Record

Org Code	County	Date		Vegetation Management Zone(s)
		6/13/2007		☐ Zone 1 ☐ Zone 2 ☐ Zone 3

Area
SR. _____ MP _____ to MP _____ Location

Check Appropriate Boxes: ☐ NB ☐ EB ☐ SB ☐ WB
☐ Roadside ☐ Shoulder ☐ Median
☐ Landscaped Area ☐ Rest Area ☐ Park-n-Ride
☐ Interchange ☐ Bridge ☐ Ramp
☐ Mitigation Site ☐ Stormwater ☐ Yard/Stockpile
Third Party Damage ☐ Yes
Sensitive Sites ☐ Aquatic ☐ Wetlands

Target ☐ Noxious Weeds ☐ Brush/Trees ☐ Other ☐ Nuisance Weeds ☐ Hazard Tree
List Target/Species: _____

Reason for Action:
☐ Noxious Weeds ☐ Nuisance Weeds ☐ Fire Prevention ☐ Restore Native Veg. ☐ Zone 1 Pilot ☐ Aesthetic
☐ Site Distance ☐ Hazard Vegetation ☐ Customer Request ☐ Enhance Vegetation ☐ Slope Stabilization ☐ Other _____

Long term IVM plan (Describe goals/objectives and a step-by-step approach over time)

Approximate Acres to Accomplish

Activities		Planned date of Treatment	Actual date of Treatment
Manual	☐ Digging ☐ Pulling ☐ Planting ☐ Lopping ☐ Scalping ☐ Other _____		
Mechanical	☐ Axial Saw Work ☐ Tractor Brush Cutter ☐ Mower/Chain ☐ Manual Brush Cutting ☐ Tractor Mower ☐ Other		
Bio-Control	☐ Insects ☐ Pathogens ☐ Parasites Type/Species _____		
Cultural	☐ Burning ☐ Grading ☐ Seeding ☐ Fertilizing ☐ Grazing ☐ Soil Amendment ☐ Other _____		
Chemical	Record Number		

#1 Evaluation and Date

#2 Evaluation and Date

#3 Evaluation and Date

Washington State Department of Transportation

Pesticide Application

Org. Code	County	Date of Application	Start / Finish	ICP	Stores Issue Ticket Number(s)
		6/13/2007	○ AM ○ PM / ○ AM ○ PM		

Area SR ____ MP ____ to MP ____ and MP ____ to MP ____ and MP ____ to MP ____ and MP ____ to MP ____

Check Appropriate Boxes

☐ NB ☐ EB ☐ SB ☐ WB

☐ Roadside ☐ Landscaped Area ☐ Interchange ☐ Yard/Stockpile
☐ Shoulder ☐ Rest Area ☐ Bridge
☐ Median ☐ Park-n-Ride ☐ Ramp

☐ Spot Spray ☐ Blanket Spray

☐ Aquatic ☐ Wetlands

☐ Weeds ☐ Noxious Weeds ☐ Disease
☐ Brush ☐ Insects ☐ Other

Zone 1 ○ yes ○ no

List Part(s):

Start Weather Conditions

Temperature ____ (°F °C) Wind (Direction From) ____ Wind (Range) ____ mph(km/h)

○ Sunny ○ Broken ○ Overcast No Rain ○ Light Scattered Showers ○ Hard Showers

Finish Weather Conditions

Temperature ____ (°F °C) Wind (Direction From) ____ Wind (Range) ____ mph(km/h)

○ Sunny ○ Broken ○ Overcast No Rain ○ Light Scattered Showers ○ Hard Showers

Tank No.	Material Name	Material Type	EPA Reg. No.	Lot Number	Product Per Acre (hectare)	Unit	Total Daily Usage	Unit

Total ____ **Acres(hectares) Treated at** ____ **gallons(liters) of spray per acre(hectare).**

Equipment Number	Tank Size 1 2 3 4 5	Calibration Date	Vehicle Speed mph(km/h)	Nozzle Pressure PSI(kPa)	Width of Spray Pattern Feet(meter)

☐ Handspreader ☐ Backpack ☐ Handgun ☐ Fixed Nozzle ☐ Boom ☐ Other (Specify) ____

☐ Tank Mix (Conc.) ☐ Injection ☐ Invert

Operator Name	Operator Pesticide License No.	Operator Signature	Driver Name

Remarks

Buffer Trail Driver's Name

Pesticide Sensitivity Registration Applies ☐ Yes ☐ No

Contact

Division of Emergency Management (1-800-258-5990)

Additional Notes

DOT Form 540-506 EF Revised 1/2007

Distribution: OIC Maint. Operator Region File

Send OIC Copy Within 5 Days

Oz= Ounces Dry Lb= Pound
Oz= Ounces Liquid Ga= Gallon
Pt=Pint Qt= Quart

g= gram kg=kilogram
ml=Milliliter L= Liter

Entity	Mailing Address	Contact Person	Title	Phone	E-Mail
City of Anacortes	City Hall 904 6th St. Anacortes, WA 98221	Fred Buckenmeyer	Deputy Public Works Director	(360) 293-1919	fred@cityofanacortes.org
City of Burlington	833 South Spruce St. Burlington, WA 98233		Public Works Department	(360) 755-9715 Fax (360) 755-0783	bpublicworks@ci.burlington.wa.us
City of Concrete	PO Box 39 Concrete, WA 98237	Alan Wilkins	Public Works Director	(360) 853-8401 Fax (360) 853-8002	awilkins.concrete@verizon.net
City of Darrington	1005 Cascade St. Darrington, WA 98241			(360) 436-1131 Fax (360) 436-0221	darcityhall@glacierview.net
City of Hamilton	584 Maple St. Hamilton, WA 98255	Kyle Farrow	Maintenance Supervisor	(360) 826-3027	townofhamilton@fildago.net
City of Lyman	8334 S. Main Lyman, WA 98263	Dennis Mani	Public Works Superintendent	(360) 826-3033 Fax (360) 826-6473	clerk_lyman@msn.com
City of Mount Vernon	1024 Cleveland Ave. Mount Vernon, WA	Esco Bell	Public Works Director	(360) 336-6204 Fax (360) 336-6299	mvengineering@ci.mount-vernon.wa.us
City of Sedro Woolley	720 Murdock St. Sedro-Woolley, WA 98284	Vacant	Public Works	(360) 855-0771	
City of Stanwood	10220 270th St. NW Stanwood, WA 98292	Bill Beckman	City Administrator	(360) 629-2181 Fax (360) 629-3009	
Skagit County	302 S. First St. Mount Vernon, WA 98273	William Rogers	County Noxious Weed Cooridnator	(360) 336-9430 Fax (360) 336-9472	williamr@co.skagit.wa.us
Snohomish County Noxious Weed Board	1136 ave. D Snohomish, WA 98290	Sonny Gohrman	County Noxious Weed Cooridnator	(360) 862-7523 Fax (360) 862-7538	sonny.gohrman@co.snohomish.wa.us
Snohomish County Public Works	3000 Rockefeller Everett, WA 98201	Roy Scalf		(425) 388-3488	public.works@co.snohomish.wa.us
Mt. Baker-Snoqualmie National Forest	1405 Emmens St. Darrington, WA 98241	Peter Forbes	District Ranger	(360) 436-1155	
Ross lake National Recreation Area	810 State Route 20 Sedro-Woolley, WA 98284			(360) 854-7200 Fax (360) 856-7245	
Swinomish Tribe			Public Works	(360) 466-1209	
The Nature Conservancy	410 N. St. Mt. Vernon, WA 98273	Melissa Holman	Invasive Species Control Manager	(360)419-0556	mholman@tnc.org
City of Oak Harbor	1400 NE 16th Ave. Oak Harbor, WA 98277	Cathy Rosen	Public Works Director	(360) 279-4699 Ext. 4751	crosen@oakharbor.org
City of Coupeville	#4 NE Seventh St. Coupeville, WA 98239	Malcolm Bishop	Public	(360) 678-4461 Fax (360) 678-3299	clerktreasure@whidbey.net